



U.S. Department
of Transportation
**Federal Highway
Administration**

Florida Division

February 20, 2014

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HAD-FL

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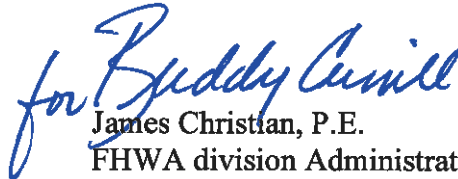
Attention: Alan Vann

Subject: Florida – Gulf Coast Parkway
Draft Environmental Impact Statement
Federal-Aid Project No's. N/A
Financial Project No. 410981-2-28-01
Bay and Gulf, Counties, Florida

We have reviewed the Draft Environmental Impact Statement (DEIS) for the subject project which you submitted in compliance with the requirements of the National Environmental Policy Act of 1969 and 23 CFR 771.

In accordance with 23 CFR 771, we have approved the DEIS for public availability and distribution to the U.S. Environmental Protection Agency (USEPA) for publication in the Federal Register per e-NEPA. Please contact Mr. Joe Sullivan (850) 553-2248 of our office concerning electronic publication per the USEPA e-NEPA system and adding the calendar date for completion of the official 45 day public review period.

Sincerely,


James Christian, P.E.
FHWA division Administrator

Enclosure

Copy: Karen Brunelle

FHWA-FLA-EIS 14-01-D
Federal Highway Administration
Florida Division

**ADMINISTRATIVE ACTION
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

U.S. Department of Transportation
Federal Highway Administration
And
Florida Department of Transportation

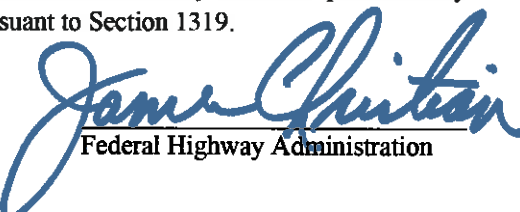
In cooperation with
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. National Marine Fisheries Service
U.S. Coast Guard
U.S. Environmental Protection Agency
Florida Department of Environmental Protection
Northwest Florida Water Management District

Financial Project Number: 410981-2-28-01
Federal Project Number: None Assigned
Gulf Coast Parkway
From US 98 in Gulf County to US 231 and US 98 (Tyndall Parkway) in Bay County
Bay and Gulf Counties, Florida

The Gulf Coast Parkway is a proposed new four-lane divided, controlled-access, arterial highway, approximately 30 miles in length. The proposed facility would provide an urban typical section with bicycle lane and sidewalks in urban areas and a rural typical section with a multi-use trail on one side of the highway. The proposed new road would also provide a new high-level bridge across the Gulf Intracoastal Waterway (ICWW) to connect US 98 in Gulf County, Florida with US 231 and US 98 (Tyndall Parkway) in Bay County, Florida
Submitted pursuant to 42 U.S.C. 4332 (2)(c).

The FHWA will issue a single Final Environmental Impact Statement and Record of Decision document pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319.

2/20/14
Date


Federal Highway Administration

For additional information, contact:
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Comments must be received by the District Environmental Management Office Engineer, Florida Department of Transportation, District Three, Post Office Box 607, Chipley, Florida, 32428.

By: _____

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LIST OF ACRONYMS

Acronym	Definition
AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AC	Acres
AFB	Air Force Base
AN	Advance Notification
APE	Area of Potential Effect
ARPC	Apalachee Regional Planning Council
AST	Aboveground Storage Tanks
ASTM	American Society of Testing Materials
BAYL	Bay Line Railroad
BEBR	Bureau of Economic and Business Research
BLM	Bureau of Land Management
BMP	Best Management Practices
BMU	Bear Management Unit
CAA	Clean Air Act
CAESR	Corridor Alternatives Evaluation Summary Report
CBIA	Coastal Barrier Improvement Act
CBRA	Coastal Barrier Resources Act
CE	Categorical Exclusion
CEI	Construction Engineering Inspection
CEMO	Central Environmental Management Office
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLIP	Critical Lands and Waters Identification Project
CO	Carbon Monoxide
CO ²	Carbon Dioxide
CR	County Road
CRAS	Cultural Resources Assessment Survey
CSVH	Conservation Habitation Zone
CSVP	Conservation Preservation Zones

Acronym	Definition
CSVR	Conservation Recreation Zones
CZ	Clear Zone
CZMA	Coastal Zone Management Act
dBA	Decibels (A-weighting)
DCA	Department of Community Affairs
DDHV	Directional Design Hour Volume
DE	Determination of Effect
DEIS	Draft Environmental Impact Statement
DFIRM	Digital Flood Information Map
DHR	Division of Historical Resources
DHV	Design Hour Volume
DIH	State In-House Product Support
DL	Dead Load
DOD	Department of Defense
DOQQ	Digital Ortho Quarter Quads
DRI	Development of Regional Impact
DSAP	Detailed Specific Area Plan
EAR	Evaluation and Appraisal Report
EDR	Economic Demographic Research
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELR	Environmental Law Review
EMA	Ecosystem Management Area
EMS	Emergency Medical Services
EO	Element Occurrence
ERP	Environmental Resource Permit
ESBAR	Endangered Species Biological Assessment Report
EST	Environmental Screening Tool
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
FAA	Federal Aviation Administration
FAC	Florida Administrative Code
FCMP	Florida Coastal Management Program

Acronym	Definition
FD	Fire Department
FDCA	Florida Department of Community Affairs
FDEO	Florida Department Economic Opportunity
FDEP	Florida Department of Environmental Protection
FDHR	Florida Division of Historic Resources
FDOS	Florida Department of State
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish and Wildlife Conservation Commission
FGDL	Florida Geographic Digital Library
FHWA	Federal Highway Administration
FIHS	Florida Intrastate Highway System
FIRM	Flood Insurance Rate Maps
FIS	Flood Insurance Studies
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FMP	Fishery Management Plans
FMRI	Florida Marine Research Institute
FMSF	Florida Master Site File
FNAI	Florida Natural Areas Inventory
FO	Federal Other
FPPA	Farmland Protection Policy Act
FR	Federal Register
FS	Florida Statutes
FT	Federal Threatened
GCP	Gulf Coast Parkway
GHG	Greenhouse Gasses
GIS	Geographic Information System
GMFMC	Gulf of Mexico Fishery Management Council
GPS	Global Positioning System
HAPC	Habitat Areas of Particular Concern
HPP	High Priority Project
ICE	Indirect and Cumulative Effects
ICWW	Intracoastal Waterway

Acronym	Definition
ID	Identification
IDC	Intermodal Distribution Center
IRIS	Integrated Risk Information System
IWHRS	Integrated Wildlife Habitat Ranking System
LBMA	Lathrop Bayou Management Area
LEP	Limited English Proficiency
LOS	Level of Service
LRE	Long Range Estimates
LRFD	Load and Resistance Factor Design
LRTP	Long Range Transportation Plan
MANLAA	May Affect, Not Likely to Adversely Affect
MHW	Mean High Water
MPA	Metropolitan Planning Area
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emission Simulator
MPO	Metropolitan Planning Organization
MSAT	Mobile source Air Toxics
MSE	Mechanically Stabilized Earth
MSFCMA	Magnuson-Stevens Fishery Conservation Management Act
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAF	Non-Appropriated Fund Personnel
NATA	National Air Toxics Assessment
NCHRP	National Cooperative Highway Research Program
NAVD	North American Vertical Datum
NE	No Effect
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHW	Normal High Water
NLEV	National Low Emission Vehicle
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

Acronym	Definition
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NWFBIA	Northwest Florida Beaches International Airport
NWFRPC	Northwest Florida Regional Planning Council
NWFRPM	Northwest Florida Regional Planning Model
NWFTCA	Northwest Florida Transportation Corridor Authority
NWFWMD	Northwest Florida Water Management District
NWI	National Wetland Inventory
NWL	Normal Water Level
O ³	Ozone
OFW	Outstanding Florida Waters
OHW	Ordinary High Water
OPA	Otherwise Protected Areas
OTAQ	Office of Transportation Air Quality
OPA	Otherwise Protected Area
PA	Pascal
PARA	Potentially Affected Resource Area
PCC	Panama City Crayfish
PD&E	Project Development and Environment
PER	Preliminary Engineering Report
PM	Particulate Matter
PPM	Plans Preparation Manual
QLOS	Quality Level of Service
RCW	Red-cockaded Woodpecker
REDI	Rural Economic Development Initiative
RFS	Reticulated Flatwoods Salamander
RFG	Reformulated Gasoline
ROD	Record of Decision
RPC	Regional Planning Council
RTP	Regional Transportation Partnership
SAV	Submerged Aquatic Vegetation
SCE	Sociocultural Effects

Acronym	Definition
SDG	Structural Design Guidelines
SDL	Superimposed Dead Load
SE	State Endangered
SEIR	State Environmental Impact Report
SHPO	State Historic Preservation Officer
SIS	Strategic Intermodal System
SPL	Sound Pressure Level
SR	State Road
SRPP	Strategic Regional Policy Plan
SSC	State Species of Special Concern
SSURGO	Soil Survey Geographic Database
STIP	State Transportation Improvement Program
SWIM	Surface Water Improvement and Management
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered Species
TBD	To Be Determined
TCC	Technical Coordination Committee
TDR	Transfer of Development Rights
TIMP	Transportation Improvement Fund
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TNM	Traffic Noise Model
TPO	Transportation Planning Organization
TRIP	Transportation Regional Incentive Program
TSM	Transportation System Management
UMAM	Uniform Mitigation Assessment Method
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOI	United States Department of Interior
USDOT	United States Department of Transportation

Acronym	Definition
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VFD	Volunteer Fire Department
VPI	Vertical Point of Intersection
WBID	Waterbody Identification Number
WCCA	Wetappo Creek Conservation Area
WER	Wetland Evaluation Report
WQIE	Water Quality Impact Evaluation
WRAP	Wetland Rapid Assessment Procedure
WWTF	Wastewater Treatment Facility
WWTP	Wastewater Treatment Plan

EXECUTIVE SUMMARY

The Project Development and Environment (PD&E) study for the Gulf Coast Parkway began in 2005 as State Environmental Impact Report (**Section 5.2.2**). The process was initially a joint effort between Opportunity Florida (**Section 1.3**), a non-profit organization created to assist eight economically depressed counties in northwest Florida, and the Florida Department of Transportation (FDOT). However, in August of 2005, the project received federal funds earmarked for design (Section 5.2.3). Therefore, project sponsorship became a joint effort between the FDOT and the Federal Highway Administration (FHWA).

The National Environmental Policy Act (NEPA) of 1969 requires that agencies sponsoring federally-funded projects with the potential to impact the environment evaluate and document the environmental consequences of the proposed project and present the findings to the public so that the public can understand and comment on the benefits and impacts of the proposed project. This project was published in the FDOT's Environmental Screening Tool (EST) where resource agencies were given the opportunity to review the project and provide comments. Through this coordinated effort, it was determined that the project could result in significant environmental impacts; therefore, this document is being prepared as an Environmental Impact Statement (EIS).

The EIS is organized into eight sections. **Section 1** presents the purpose and need for the project. **Section 2** summarizes prior studies that have been conducted, the identification and evaluation of potential corridors, the development and analysis of alternatives, and provides a comparative analysis of the effects of the project alternatives. **Section 3** describes the existing social, economic, cultural, natural, and physical environment of the study area. **Section 4** discusses the environmental consequences of the project alternatives, including the No Build Alternative, on those environmental resources identified in Section 3. **Section 5** presents the public involvement and agency coordination that has been conducted throughout the PD&E study. **Section 6** lists the commitments made by the FDOT to offset the project's adverse effects on the environment and FDOT's recommendation to FHWA for a preferred alternative. **Section 7** is a list of preparers of the document, including the lead, participating and cooperating agencies. **Section 8** lists the agencies, organizations and persons to whom copies of the EIS have been sent. Appendices at the end of the EIS provide documentation supporting the text and include copies of correspondence from agencies and the public. Technical reports accompanying the EIS have been prepared to document in greater detail the analysis of the project's potential effects on most of the environmental resources discussed in the EIS.

PROJECT DEVELOPMENT AND ENVIRONMENT

Project Development and Environment is the project development phase in which conceptual alternatives are identified and evaluated for cost, environmental impacts, and public preference in accordance with the requirements of the National Environmental Policy Act

NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act of 1969 established a national policy for protection of the environment and procedures by which federal agencies could integrate environmental protection into their decision making. These procedures require federal agencies to consider the impacts of their proposed actions and reasonable alternatives to those actions before such actions can be implemented. This effort is documented in an EIS or environmental assessment, depending on the significance of potential impacts.

ES.1. What is the Gulf Coast Parkway and where is it located?

The Gulf Coast Parkway is a proposed new four-lane divided, controlled-access, arterial highway, approximately 30 miles in length. The proposed facility would provide an urban typical section with bicycle lane and sidewalks in urban areas and a rural typical section with a multi-use trail on one side of the highway (**Section 2.3.5.2**). The proposed new road would also provide a new high-level bridge across the Gulf Intracoastal Waterway (ICWW) to connect US 98 in Gulf County, Florida with US 231 and US 98 (Tyndall Parkway) in Bay County, Florida (**Section 2.3.4.1**).

The study area for the proposed project, shown on **Figure ES-1**, encompasses western Gulf County, eastern Bay County, and a very small portion of Calhoun County in the central panhandle region of Florida. The southern boundary of the study area is a 9.4 mile segment of US 98 that stretches between the eastern boundary of the Tyndall Air Force Base (AFB) Reservation and the western boundary of the St. Joe Beach community. From US 98, the study extends in a broad swath northward to just south of State Road (SR) 22 where it broadens to include an area 22.5 miles wide from SR 75 (Harrison Avenue) in Panama City to a point on SR 22 that is 6.3 miles east of the Bay County line in Gulf County. The study area then pivots to the northwest and continues to US 231.

The majority of the study area where alternative alignments have been proposed is undeveloped or in agricultural use (refer to **Section 3** for descriptions of existing conditions). Developed areas are almost entirely confined to the southern, western and northern boundaries of the study area (**Section 3.3.1.2**). These communities include (from south to north):

- Mexico Beach, Beacon Hill, and St. Joe Beach along US 98 in Gulf County;
- Overstreet along County Road (CR) 386;
- Callaway, Parker, Springfield and the eastern portion of Panama City along US 98 (Tyndall Parkway) in Bay County;
- Hiland Park, Lynn Haven, and Bayou George along US 231.

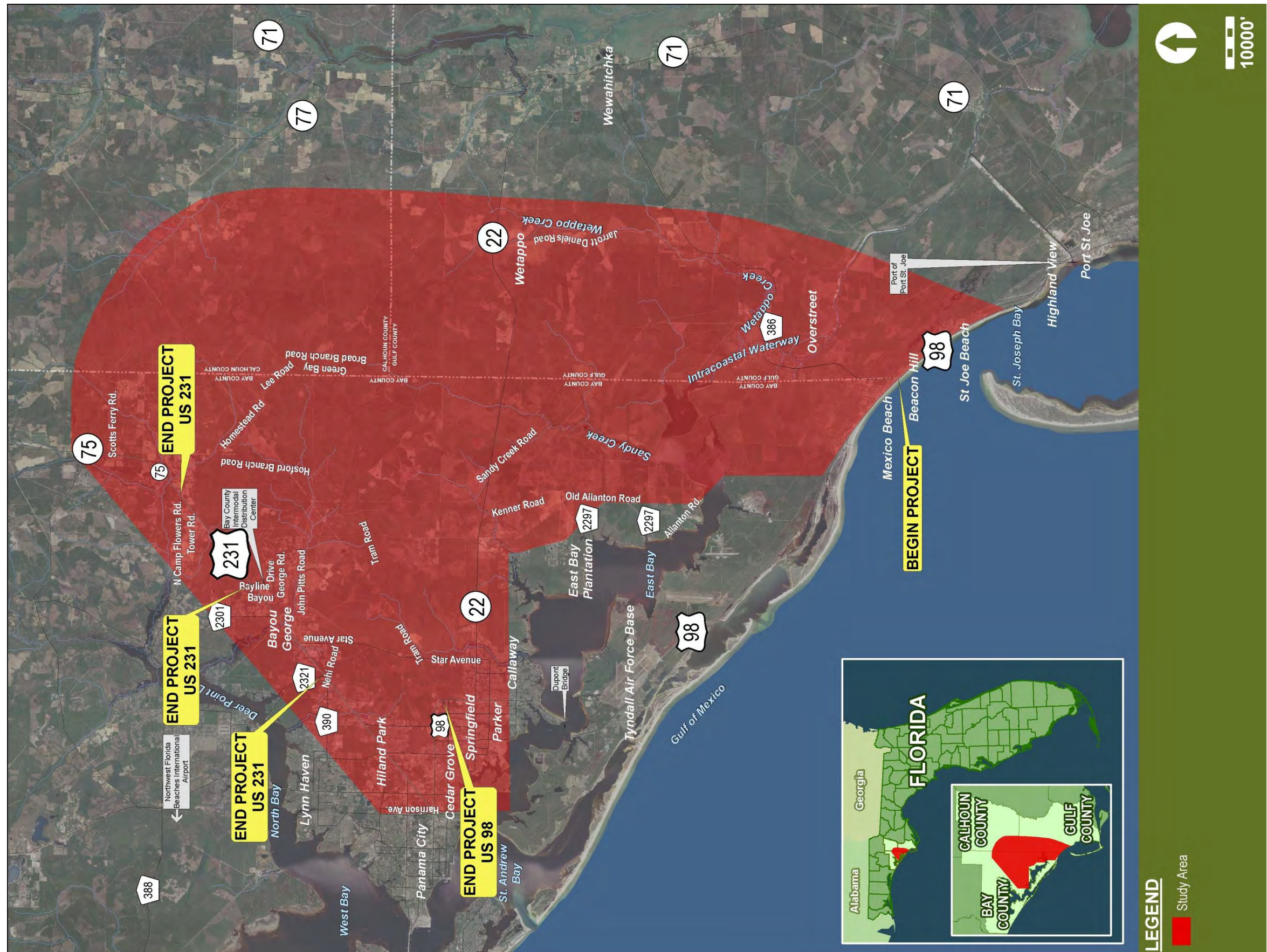
Because there are limited transportation facilities in the study area the proposed project would provide more efficient links between the coastal areas of Gulf County and major transportation facilities, employment, and shopping areas within and north of the Panama City urbanized area.

PROJECT STUDY AREA

The majority of the study area where alternative alignments have been proposed is undeveloped or in agricultural use.



Figure ES-1 Gulf Coast Parkway Location and Study Area Map



ES.2. Who is leading the project?

The FDOT is the project proponent and the FHWA and FDOT are the joint lead agencies (**Section 1.2**). FHWA is providing highway design guidance and environmental oversight, and is the lead agency for the NEPA compliance. FDOT is leading the highway design efforts and writing the EIS. The United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), the United States Coast Guard (USCG), the Florida Department of Environmental Protection (FDEP) and the Northwest Florida Water Management District (NFWMD) are cooperating agencies in the preparation of the EIS (**Section 5.2.3**).

ES.3. Who has been involved in the project's development?

Throughout the project's development, FHWA and FDOT have engaged in a continuous process of consultation and collaboration with the public, special interest groups, the project's cooperating and participating agencies, and other stakeholders (**Section 5**). The efforts have included:

Public Involvement

The Gulf Coast Parkway project has followed an extensive community and agency involvement process since the project was initiated as a Feasibility Study in 2002. The process was designed to be an interactive exchange of information on the project and the study process between FDOT and as many of the residents, businesses, agencies, stakeholders, and community groups as possible. For the PD&E stage of the project's development, begun in 2005, the public involvement began with a series of scoping meetings with the public and the resource agencies. Other public involvement activities include publication of the project in the programming screen phase (in 2006 and again in 2007) of FDOT's Efficient Transportation Decision Making (ETDM) Process (the final Programming Screen Summary Report was published June 16, 2009); public meetings and workshops; newsletters; questionnaires; and a project website (**Section 5.4**). In addition to receiving agency and public comments, publication of the project in the ETDM programming screen resulted in coordination with Native American tribes including the Miccosukee Tribe of Indians of Florida (see Section 5 Comments and Coordination).

LEAD AGENCIES



United States Coast Guard
U.S. Department of Homeland Security



A cooperating agency is any Federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. A State or local agency of similar qualifications by agreement with the lead agencies, also become cooperating agencies.



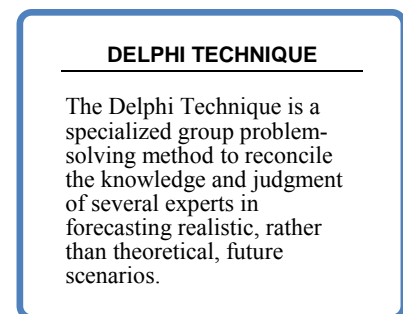
Gulf Coast Parkway Indirect and Cumulative Effect Advisory Group

This group was formed in the summer of 2009 and consisted of representatives of agencies on the ETDM Environmental Technical Advisory Team (ETAT) who were either cooperating, or participating, agencies in the EIS (**Section 5.2.3**). These agencies provided information and guidance for conducting the indirect and cumulative effects (ICE) analysis for this project. The team members, representatives of the USACE of Engineers, the USFWS, the United States Environmental Protection Agency (USEPA), the National Marine Fisheries Service (NMFS), the FHWA, the FDOT, the NFWFMD, the FDEP, the Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Community Affairs (now Department of Economic Opportunity) have remained involved and will continue to remain involved as reviewers of the *Indirect and Cumulative Effects Report* (available for review at FDOT District 3 and summarized in **Section 4.3.20**) prepared to document the analysis. Their comments on this report and FDOT responses are included in Appendix I. These agencies are expected to remain involved until dispute resolution has been reached.



Delphi Group

The Delphi Group, so named because the group utilized the Delphi Technique to determine future development scenarios, was comprised of land planners from the public and private sectors with extensive knowledge of the study area. This group was tasked with determining land development patterns for the design year with and without the project alternatives. The information provided by this group was utilized in the ICE analysis (see **Section 4.3.20**).



Agency Reviews

Resource agencies have been involved in the PD&E study at various key points of the project's development beginning with review of the project in FDOT's ETDM Programming Screen and the agency scoping meeting for the PD&E study, both of which occurred in August 2005 (see **Section 5** for detailed description). Although there were exchanges of information throughout the project's development, other key stages in which the agencies were involved occurred at the following milestones:

- Publication of the project in ETDM, including development of resource Issue Action Plans (Appendix L) which defined the analysis

methodology that would produce information the agencies could use to assess impacts and reach resolution of agency concerns;

- Corridor evaluation - the agencies provided corridors for evaluation and data sets for use in evaluating the corridors. Also reviewed the *Corridor Alternatives Evaluation Summary Report* (available at FDOT District 3);
- Field reviews during alternatives' development;
- ICE analysis – the agencies participated in the development of the analysis methodology, provided databases of information, and reviewed the *Indirect and Cumulative Effects Report* (available at FDOT District 3);
- Reviews of supporting technical reports – agencies have reviewed and commented on technical reports (available at FDOT District 3) supporting the preparation of the Draft EIS.

Agency consultation and coordination, which began with review of the project in the Environmental Planning Screen and scoping in August 2005, is on-going and will continue throughout the project's development.

Native American Tribes

Native American Tribes reviewing the project's Advance Notification and the ETDM Programming Screen included Muscogee Nation of Oklahoma, Miccosukee Tribe of Indians of Florida, Poarch Band of Creek Indians of Alabama, Seminole Tribe of Florida, and the Seminole Nation of Oklahoma. No major concerns were expressed. The Miccosukee Tribe of Indians of Florida requested that a cultural resources survey be conducted. This survey was conducted and approved by the State Historic Preservation Officer (SHPO) (see Section 4). No input from the tribes has been provided.

ES.4. What other major governmental actions in the same geographical area?

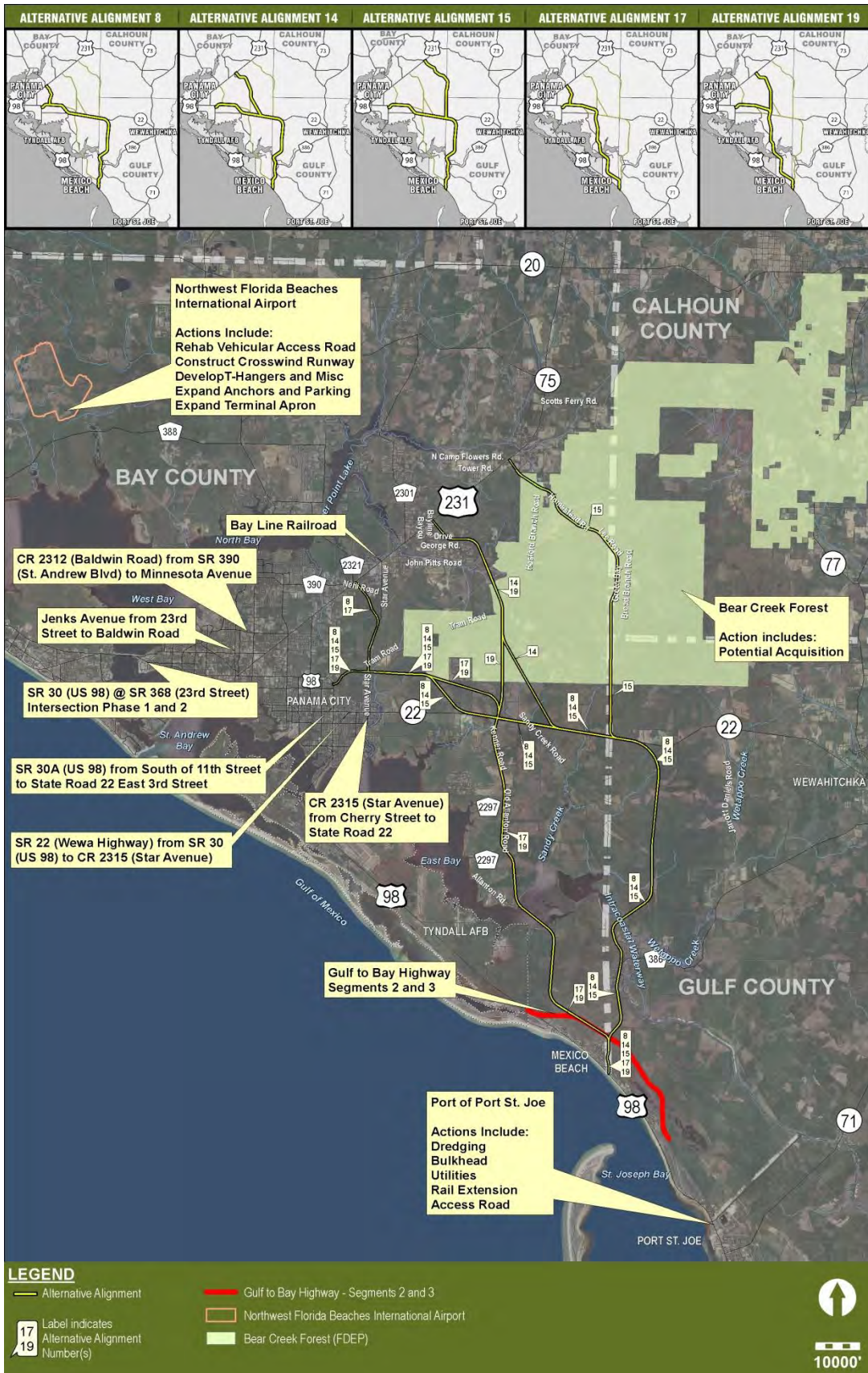
Other governmental actions that are on-going or proposed are provided in **Table ES-1** and their locations are shown on **Figure ES-2**. There are four categories of proposed government projects that have been identified as occurring within the vicinity of the Gulf Coast Parkway: transportation projects, enhancement projects (bicycle/pedestrian projects), seaport projects, and airport projects (**Section 1.4.2.4**). The proposed project build alternatives have been examined to identify any potential for conflicts with these projects.

**Table ES-1: Other On-going or Proposed Governmental
Actions in the Gulf Coast Parkway Study Area**

Project Name	Location	Description	Responsible Agency
CR 2312 (Baldwin Road) from SR 390 (St. Andrew Blvd) to Minnesota Avenue.	Bay County	Add lanes and reconstruct	FDOT
CR 390 from SR 77 (Ohio Avenue) to SR 75 (US 231)	Bay County	Preliminary Engineering for future capacity	FDOT
SR 22 (Wewa Highway) from SR 30 (US 98) to CR 2315 (Star Avenue)	Bay County	Preliminary Engineering for future capacity	FDOT
SR 30 (US 98) @ SR 368 (23 rd Street) Intersection Phase 1	Bay County	Preliminary Engineering for future capacity	FDOT
Jenks Avenue from 23 rd Street to Baldwin Road	Bay County	Widen to four lanes	FDOT
Port of Port St. Joe Access Road	Gulf County	Seaport Capacity Project	FDOT
Gulf to Bay Highway Phase 3	Bay County	New highway construction	FDOT
Gulf to Bay Highway Phase 2	Gulf County	New highway design and permitting	FDOT
SR 30A (Tyndall Parkway)	Bay County	Add sidewalk from 11 th Street to SR 22	FDOT
CR 2315 *Star Avenue)	Bay County	Add sidewalk from Cherry Street to SR 22	FDOT
Port of Port St. Joe	Gulf County	Dredging Ship Channel to 35 feet	Port Authority
Port of Port St. Joe	Gulf County	Infrastructure for Manufacturing Sites	Port Authority
Port of Port St. Joe	Gulf County	Dredging 39 feet	USACE
Port of Port St. Joe	Gulf County	Extension of bulkhead	Port Authority
Port of Port St. Joe	Gulf County	Acquisition of future growth properties	Port Authority
Port of Port St. Joe	Gulf County	Rail Extension	Port Authority
Port of Panama City	Bay County	Maintenance dredging	Port Authority
Port of Panama City	Bay County	Berth 3 Dredging	Port Authority
Port of Panama City	Bay County	Container Terminal Expansion	Port Authority
Port of Panama City	Bay County	Relocate & Expand Truck Staging	Port Authority
NWFBIA*	Bay County	Rehab Vehicular Access Road	NWFBIA
NWFBIA	Bay County	Construct Crosswind Runway	NWFBIA
NWFBIA	Bay County	Develop T-Hangers and Miscellaneous	NWFBIA
NWFBIA	Bay County	Expand Anchors and Parking	NWFBIA
NWFBIA	Bay County	Expand Terminal Apron	NWFBIA
Bay Line Railroad	Bay County	Track Upgrade	Bay Line Railroad
Bear Creek Forest	Bay County Gulf County Calhoun County	Acquisition of 100,424 acres	FDEP

*Northwest Florida Beaches International Airport

Figure ES-2: Other On-going or Proposed Government Actions



The only transportation project that has potential for involvement with the Gulf Coast Parkway would be the Gulf to Bay Highway Phases 2 and 3 projects (**Section 4.1.1.3**). Gulf to Bay Highway Phase 3 (from US 98 west of Mexico Beach to CR 386) is consistent with the 2035 Long Range Transportation Plan (LRTP) (*Direction 2035 Shaping Our Future*) Needs Plan. Gulf to Bay Highway Phase 2 (from CR 386 to US 98 east of St. Joe Beach) does not appear in the Needs Plan as Gulf County is not within the boundaries of the Bay County Transportation Planning Organization (TPO). Neither project is identified in the 2013-2017 State Transportation Improvement Program (STIP) or soon to be adopted 2014-2018 STIP.

The Gulf Coast Parkway's involvement with the Gulf to Bay Highway depends upon the alternative selected. For Build Alternatives 8, 14, and 15, involvement with the Gulf to Bay Highway would consist of an intersection located approximately 1.6 miles north of the existing US 98/CR 386 intersection. However, Alternatives 17 and 19 would share approximately 1.4 miles of alignment with Phase 3 of the Gulf to Bay Highway (**Figure ES-3**).

There is no potential for project conflicts between the Gulf Coast Parkway and the NWFBI, the Port of Panama City, or the Port of Port St. Joe projects. However, according to the Master Plan for the Port of Port St. Joe, the success of the Port reactivation will be highly dependent upon the completion of the Gulf Coast Parkway to provide the needed four-lane access to I-10, the Port of Panama City Intermodal Distribution Center (IDC), and the NWFBI (**Sections 1.4.1.3 and 1.5**).

There is potential for conflict between the Bay Line Railroad track upgrade and the Gulf Coast Parkway alternatives, depending on the timing of construction, as all alternatives would have to cross the Bay Line Railroad to connect to US 231. Alternatives 8 and 17 would provide a flyover crossing of the railroad, thus minimizing, or even eliminating, potential conflicts. The sizing of the flyover will have to take into consideration the proposed track upgrade (**Section 4.3.17.2**).

The Bear Creek Forest is a Florida Forever land acquisition project that is ranked number 21 on the Critical Natural Lands Projects list and has a Medium/Low Work Plan priority in the Five Year Work Plan (dated April 24, 2012). Alternatives 8 and 17 would have no involvement with the Bear Creek Forest land acquisition project. However, Alternatives 14, 15 and 19 would have involvement with this large land acquisition project (shown on **Figure ES-2**). However, it should be noted that the land designation for acquisition under Florida Forever is still in private ownership. (**Sections 4.1.3.2 and 4.1.4.1**).

Figure ES-3: Relationship between the Gulf Coast Parkway Alternatives and the Gulf to Bay Highway Project



Other Federal actions in the study area are limited to permitting activities for private development proposals in wetland areas. The Gulf Coast Parkway project will require permits from the USCG for crossing navigable waters; from USACE Section 10 and Section 404 permits; from FDEP an Environmental Resource Permit, National Pollutant Discharge Elimination System (NPDES) permit, and water quality certification; and from the NFWMD, a stormwater management permit (**Section 4.3.19**).

ES.5. What is the purpose and need for the project?

The need for the project arose initially from the depressed economic conditions in Gulf County, Florida (see **Section 1**). As the concept of improving the transportation network as an economic stimulus for the County was investigated, it became apparent that additional purposes and needs could be addressed by the proposed facility. These included: relief of congestion on existing roads within the network; improving the security of Tyndall AFB; improving travel time; improving access to multi-modal facilities; and enhancing hurricane evacuation for those in the coastal areas of Gulf County and southeastern Bay County.

The proposed project has been designed to address these needs in the following manner.

- Enhance economic development in Gulf County through provision of direct access to major transportation facilities (regional freight transportation routes and intermodal facilities); improved mobility; and direct access to tourist destinations in south Gulf County.
- Improve mobility within the regional transportation network by providing a new connection to the existing transportation network consistent with the Bay County LRTP and the Bay County and Gulf County Comprehensive Plans.
- Improve security of the Tyndall AFB by providing a shorter detour route.
- Improve hurricane evacuation for residents of coastal Gulf County and southeastern Bay County by providing an additional evacuation route.

ES.6. What alternatives are being considered and how were they developed?

Since the beginning of the PD&E study in 2005, the FHWA and the FDOT have worked with the resource agencies and the public to develop and consider a range of potential solutions to the project purposes and needs (**Section 1**). Transportation system management measures and multi-modal transportation options were determined to not meet the purpose and need; therefore, build alternatives would be required. Because there were no existing roads that traveled the length of the study area between the project termini, a combination



ALTERNATIVES CONSIDERED

Alternatives considered include:

- No Build Alternative
- Transportation System Management Measures
- Multi-Modal Transportation Options
- Build Alternatives

of existing and new alignments would be necessary. Before alignment alternatives could be considered, however, a corridor evaluation (see **Section 2**) was conducted to identify corridors in which alignment alternatives could be developed.

Corridor Evaluation

Of eighteen corridor alternatives developed, FHWA determined that twelve met the purpose and need criteria (**Section 2.1.3**). A draft *Corridor Alternatives Evaluation Summary Report (CAESR)*, which is available at the FDOT, District Three office in Chipley, documents the elimination of the corridors that did not meet the project's purpose and need, the evaluation of the remaining twelve corridors, the public meeting at which the impacts of the corridors was presented, and the recommendation to advance Corridors 8, 14, 15, and 17 (**Section 2.2**). The subsequent ETAT review of the draft *CAESR* resulted in two recommendations which added to the corridor alternatives identified for further analysis:

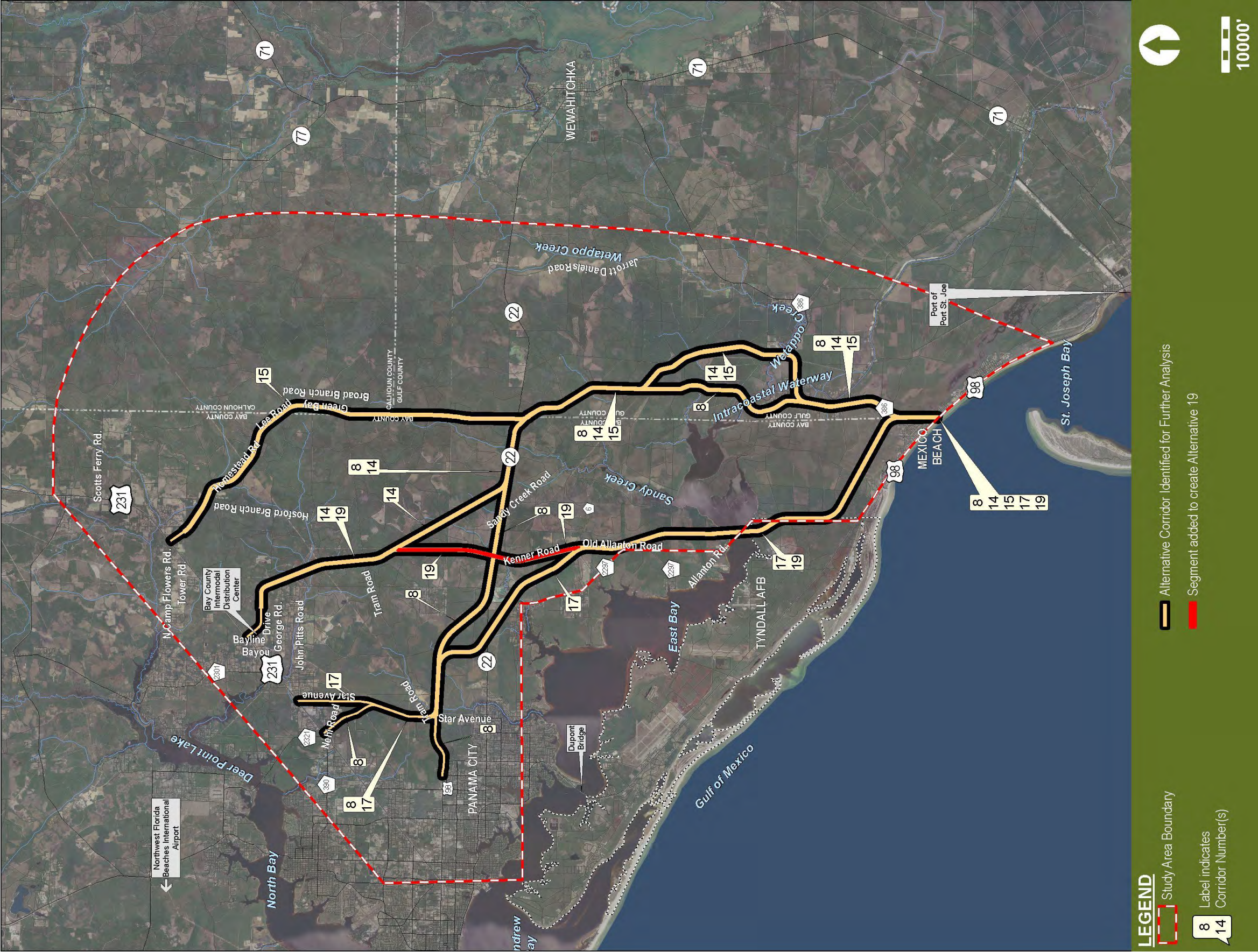
- An additional alternative, designated Alternative 19, was included in the alternatives recommended for further study. Alternative 19 is a hybrid of the southern half of Alternative 17 and the northern half of Alternative 14.
- The southern half of Corridor 18, up to SR 22, was carried forth as an optional location for the development of alternative alignments within Corridors 8, 14, and 15.

The final *CAESR*, which recommends Corridors 8, 14, 15, and 17, along with Alternative 19 (**Figure ES-4**) be carried forward for further analysis, was approved by FHWA on June 15, 2009.

Traffic Analysis

A traffic study was conducted to determine the type of facility that would be required to meet the purpose and need for the project (**Sections 2.7.1 and 2.7.2**). The traffic study identifies traffic levels on existing roads and determines how much it is estimated to grow in the future years as a result of the growth in population and employment. Taking into account the projected population and employment growth, the analysis identified the number of vehicles expected to through the study area. In addition peak period traffic was evaluated. This information determined the number of travel lanes that would be required for the proposed road to accommodate the project traffic in the design year. Once the number of lanes was known, the traffic study evaluated congestion and travel times that would occur during peak periods under the No Build and Build Alternatives conditions. This information was also used to determine how local streets and intersections would function under the various alternatives (see **Section 2.7.4**).

Figure ES-4: Gulf Coast Parkway Alternative Corridors Recommended for Further Study



Typical Sections

Once the number of travel lanes needed has been determined, engineering criteria are used to develop the roadway typical sections. Each of the alternatives would utilize a combination of rural and urban arterial typical sections with bicycle pedestrian facilities. Initially, depending on location, a two-lane roadway would be constructed (see **Section 2.7.3** for a discussion of construction phasing), but by the design year, the project would provide a four-lane roadway for the length of the study area (**Section 2.3.5**).

This PD&E study evaluates the impacts of the ultimate four-lane typical section. The interim and ultimate rural arterial typical sections include a 12-foot paved shared-use path on one side (**Figure ES-5**). The interim and ultimate high-speed urban arterial section includes 6.5-foot bicycle lanes in the outside shoulders and four-foot paved inside shoulders. This is a curb and gutter section with five-foot paved sidewalks on each side of the four-lane roadway (**Figure ES-6**). Two-lane and four-lane bridge typical sections for the rural and urban conditions are shown in **Figures ES-7** and **ES-8**.

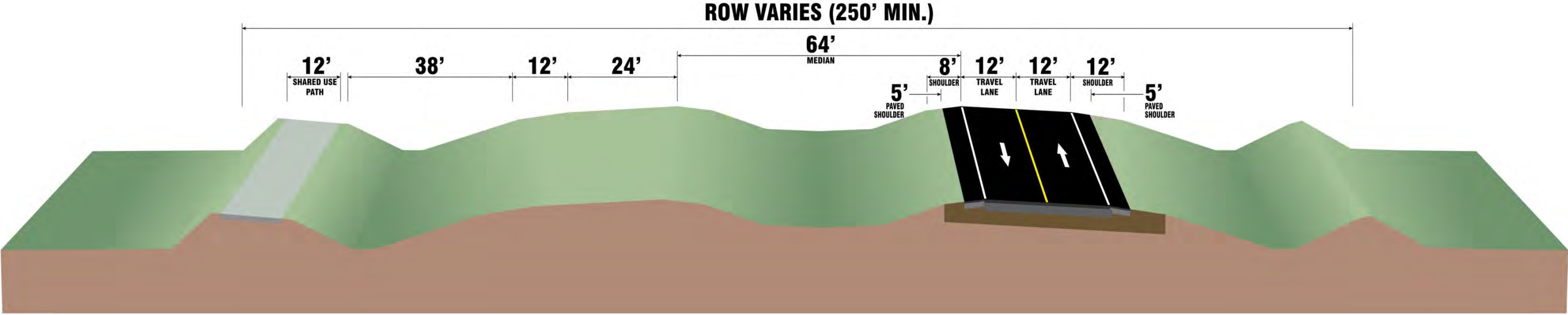
Interim bridges would have two 12-foot travel lanes, a ten-foot outside shoulder and a six-foot inside shoulder. Bicycle and pedestrian traffic would be accommodated with a 12-foot shared use path with the rural typical section, while bicyclists would use the 10-foot outside shoulder and pedestrians would use a five-foot sidewalk with the urban typical section. The ultimate typical section would provide four 12-foot travel lanes with six-foot inside shoulders and 10-foot outside shoulders. Bicyclists and pedestrians would be accommodated with a 12-foot shared-use path on one side of the bridge under the ultimate rural typical section. The ultimate urban typical section would accommodate bicyclists in the 10-foot outside shoulder and pedestrians on a five-foot sidewalk on either side of the bridge.

WHAT IS A TYPICAL SECTION

Typical sections represent a cross section of the road that show the number, position and dimension of the functional roadway elements within the right-of-way including travel lanes, shoulders, median, roadside ditches, sidewalks, bicycle lanes, etc. The elements in the typical section are designed to reflect the type of road, volume of traffic, and surrounding land use.

Figure ES-5: Proposed Rural Arterial Typical Section

Interim Rural Typical



Ultimate Rural Typical

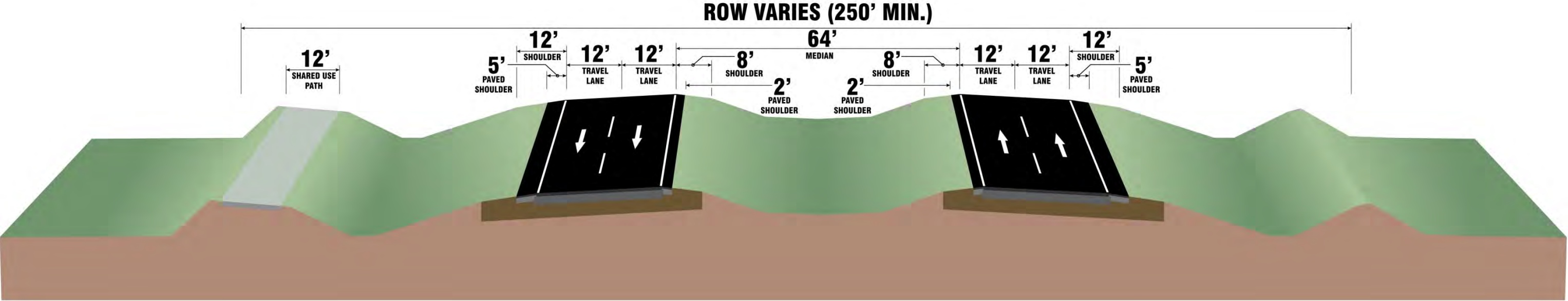
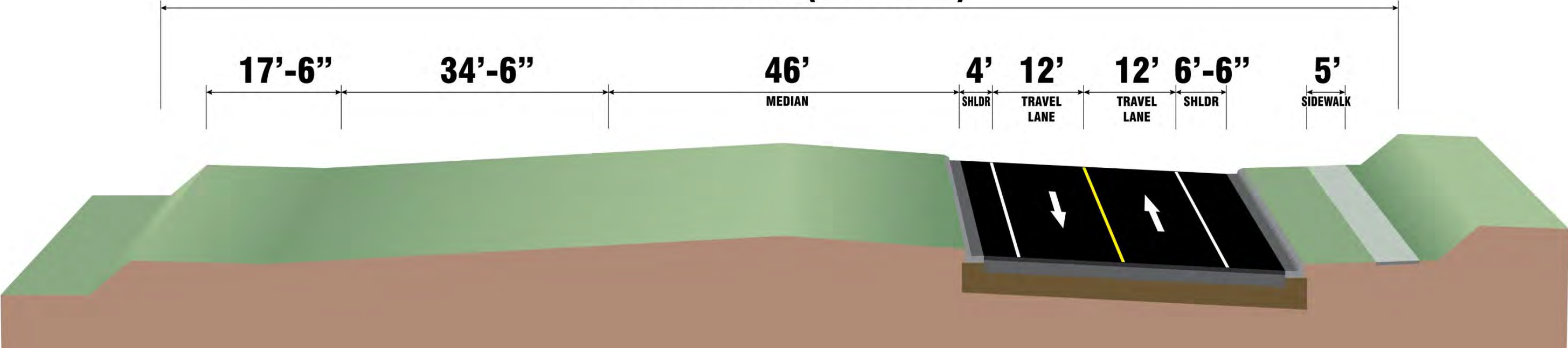


Figure ES-6: Proposed Urban Arterial Typical Section

Interim Urban Typical

ROW VARIES (160' MIN.)



Ultimate Urban Typical

ROW VARIES (160' MIN.)

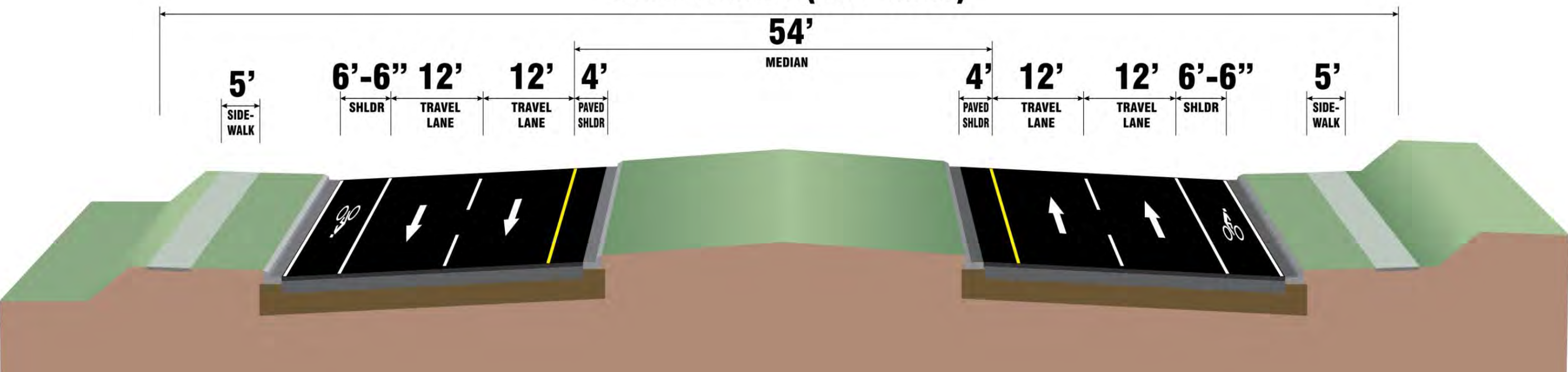


Figure ES-7: Proposed Interim Bridge Typical Sections

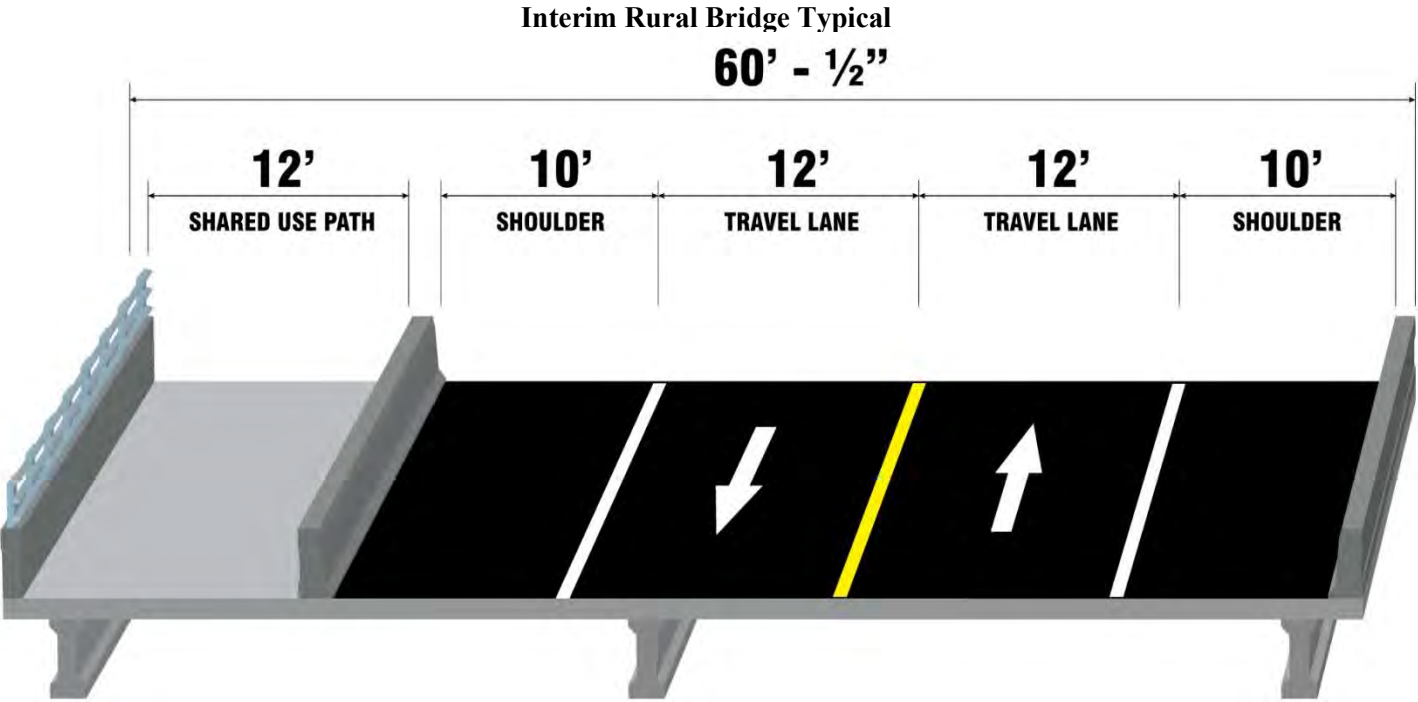
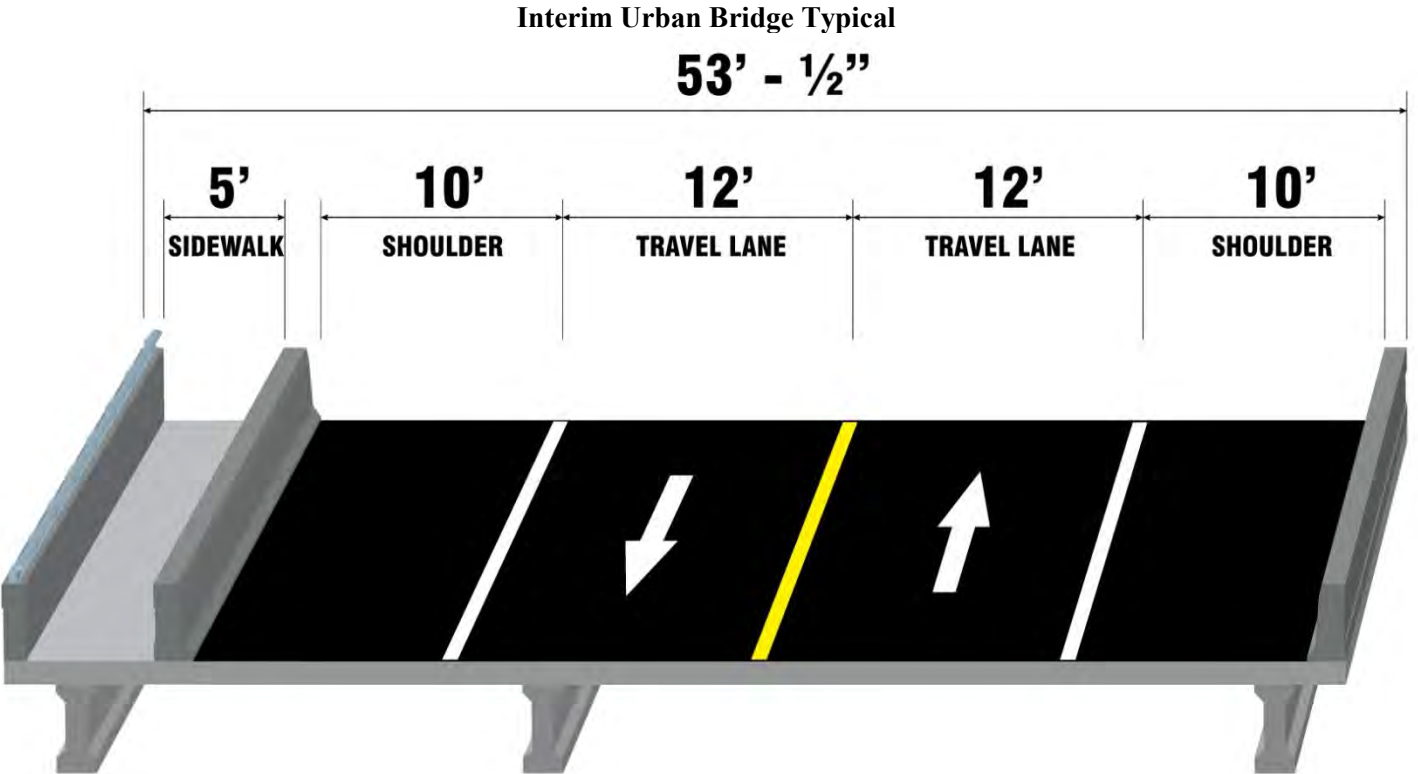
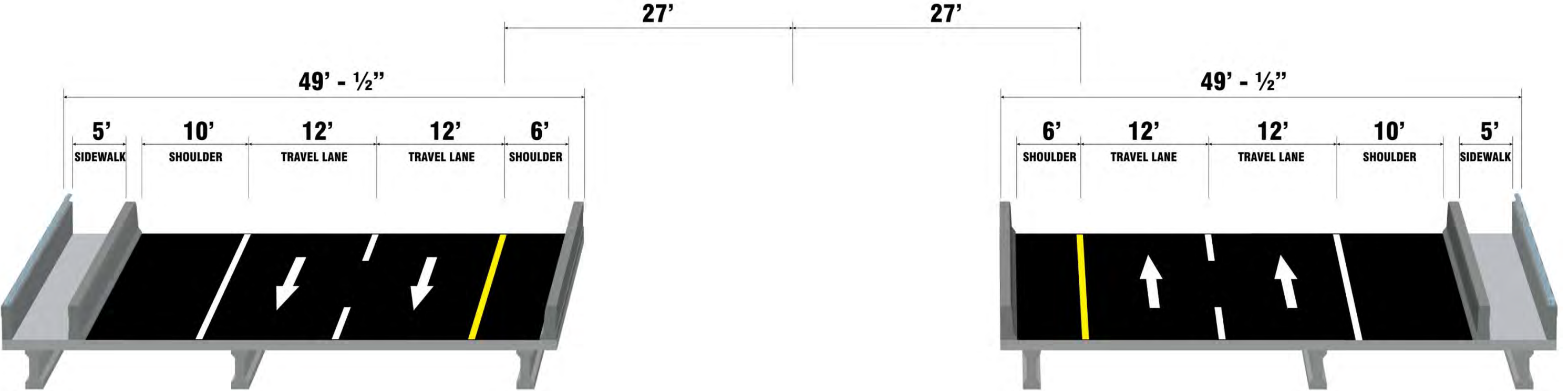
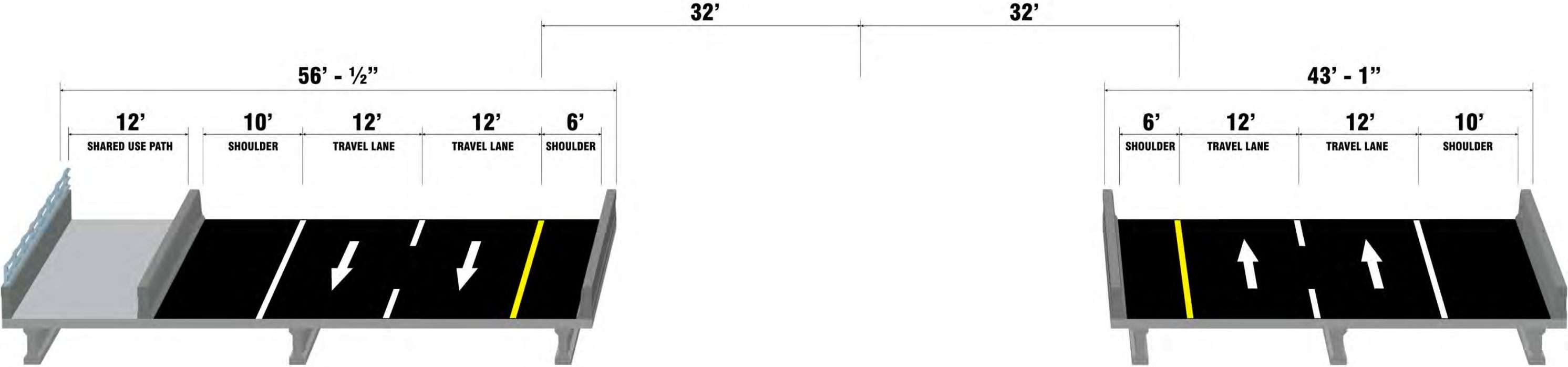


Figure ES-8: Proposed Ultimate Bridge Typical Sections

Ultimate Urban Bridge Typical



Ultimate Rural Bridge Typical



Build Alternatives

Using the typical sections and other design criteria (**Sections 2.3.1 and 2.3.2**), alternative alignments were developed within the alternative corridors. The identification of build alternatives was an iterative process beginning with the development of conceptual alignments utilizing the Strategic Intermodal System (SIS) criteria and FDOT high speed arterial roadway standards. The proposed design speed used was 65 mph for the rural roadway, and 50 mph for the urban roadway.

Alignments were first developed and refined using desktop level data on the study area's resources (**Section 2.3.5.4**). These conceptual alignments were then field surveyed to determine involvement with sensitive resources not noted in the desktop review. Based on the field analysis, the alignments were modified to avoid and/or minimize impacts to sensitive resources. As a result, in some cases, the modified alignments fell outside of the original alternative corridor boundaries.

It should be noted, that Alignment Alternatives 14, 15, and 19 differ from Corridor Alternatives 14, 15, and the original Alternative 19, in that the alignment alternatives also utilize Tram Road to connect to US 98 (Tyndall Parkway) instead of SR 22 (**Section 2.4.4**). This is because the traffic analysis determined that 37,100 vehicles Average Annual Daily Traffic (AADT) would use SR 22 (assumed to be four lanes from Star Avenue to US 98) in 2032 at a Level of Service (LOS) F. While Alternatives 8 and 17, which utilize Tram Road to connect to US 98 (Tyndall Parkway) would have an AADT 33,037 in 2032. To provide an acceptable LOS, SR 22 would have to be widened from four to six lanes requiring the relocation of 22 residences, 18 commercial properties, and 3 churches. Because each viable alternative needs to equally meet the project's purpose to fully and fairly account for each alternative's impacts and benefits, it was apparent that the option of utilizing SR 22 instead of Tram Road would cause greater costs and impacts than utilizing Tram Road. Therefore, Alternative Alignments 14, 15, and 19 were revised to utilize the Tram Road option for connecting to US 98 (Tyndall Parkway).

The five build alternatives identified for further study are shown in **Figure ES-9** and briefly described in **Table ES-2**.






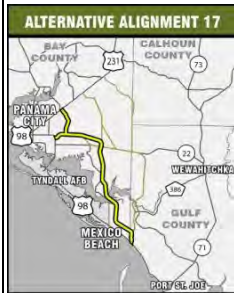
SR 22 Traffic Capacity

Alternatives 14, 15, and 19 were modified during alternative alignment analysis to include a connection to US 98 via Tram Road (similar to alternatives 8 and 17).

This was done because traffic analysis showed that the construction of alternatives 14, 15, and 19 without the Tram Road/US 98 connection would cause a failing level of service on SR 22 from Star Avenue to US 98 (Tyndall Parkway).

Table ES-2: Description of the Gulf Coast Parkway Alternative Alignments

Alternative	Description
 <p>ALTERNATIVE ALIGNMENT 8</p> <p>This map shows the proposed route for Alternative Alignment 8 through Bay, Calhoun, and Gulf Counties. The route starts near Panama City, follows CR 386 north, crosses the ICWW and Wetappo Creek, and then follows SR 22 west before turning south to intersect US 98 (Tyndall Parkway) near Mexico Beach. Key landmarks include Panama City, Tyndall AFB, and Mexico Beach.</p>	<p>8</p> <p>From the intersection of US 98 and CR 386, Alternative 8 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it deviates from CR 386. Proceeding north on new alignment for a total of approximately 8.5 miles, Alternative 8 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, the alignment travels west along existing SR 22 for approximately 6.5 miles where it turns northwest and then west on new alignment for approximately 5.0 miles to intersect Star Avenue about 0.3 mile south of Tram Road. From Star Avenue, Alternative 8 transitions to an urban typical section which is carried through to both termini locations. The alternative's through movement continues west on new alignment for approximately 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Additionally, the less dominant leg of Alternative 8 proceeds north along existing Star Ave. approximately 2.2 miles until the intersection with Nehi Road where it follows mostly along Nehi Road to the northwest to end at a new intersection with US 231 in the vicinity of the existing CR 2321/US 231 intersection.</p>
 <p>ALTERNATIVE ALIGNMENT 14</p> <p>This map shows the proposed route for Alternative Alignment 14. It follows a similar initial path to Alternative 8 but deviates further west on SR 22 before turning south to intersect US 98 (Tyndall Parkway) near Mexico Beach. Key landmarks include Panama City, Tyndall AFB, and Mexico Beach.</p>	<p>14</p> <p>From the intersection of US 98 and CR 386, Alternative 14 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it then deviates from CR 386 alignment. Proceeding north on new alignment for a total of approximately 8.5 miles, Alternative 14 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, the alignment travels west along existing SR 22 for approximately 2.5 miles where it splits. To connect with US 98 (Tyndall Parkway), the alignment continues west on SR 22 for approximately 4.0 miles where it turns northwest and then west to intersect Star Ave. about 0.3 mile south of Tram Road. From Star Ave., Alternative 14 transitions to an urban typical section and continues west 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). To connect with US 231, Alternative 14 after splitting from SR 22 proceeds northwest on new alignment for approximately 8.0 miles where it turns to the west and continuing on new alignment, travels south of and parallel to the Bay County IDC and Conservation Boundary. It then transitions to an urban typical section and proceeds northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231.</p>
 <p>ALTERNATIVE ALIGNMENT 15</p> <p>This map shows the proposed route for Alternative Alignment 15. It follows a similar initial path but has two options for the terminus: one connecting to US 98 (Tyndall Parkway) and another continuing north to intersect US 231 near Camp Flowers Road. Key landmarks include Panama City, Tyndall AFB, and Mexico Beach.</p>	<p>15</p> <p>From the intersection of US 98 and CR 386, Alternative 15 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it then deviates from the CR 386 alignment. Proceeding north, on new alignment for a total of approximately 8.5 miles, Alternative 15 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, Alignment 15 has two options depending on the desired terminus. To connect with US 98 (Tyndall Parkway), Alternative 15 travels west along existing SR 22 for approximately 6.5 miles where it turns northwest and then west on new alignment for approximately 5.0 miles to intersect Star Ave. about 0.3 miles south of Tram Road. From Star Ave., Alternative 15 transitions to an urban typical section and continues west on new alignment for approximately 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Alternately, from SR 22, Alternative 15 continues across SR 22, traveling north then northwest on new alignment for approximately 14.0 miles, transitioning back to an urban typical section just before it ends at a new intersection with US 231 near Camp Flowers Road.</p>



17

From the intersection of US 98 and CR 386, Alternative 17 follows CR 386 utilizing the urban typical section to North 15th Street. From there, it transitions to a rural typical section and continues north along existing CR 386 for approximately 0.5 mile where it then turns west and travels on new alignment for 3.0 miles. The alignment veers to the north for approximately 2.5 miles and then utilizing a new high level bridge crosses over East Bay and the ICWW. The alignment returns to grade on Allanton Point and continues to the north mostly along existing Allanton/Old Allanton Road until it reaches SR 22. After crossing SR 22, the road would travel north then west on new alignment for approximately 5.3 miles to connect at an intersection with Star Ave. about 0.3 mile south of Tram Road. From the intersection at Star Ave., Alternative 17 transitions to an urban typical section and has two termini locations. The alternative's through movement continues west on new alignment for approximately 0.7 mile until it merges with existing Tram Road. From there it travels along existing Tram Road for approximately 0.5 mile and then turns to the west on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Additionally, the alternative travels north along existing Star Ave. approximately 2.2 miles until the intersection with Nehi Road where it follows mostly along Nehi Road to the northwest to end at a new intersection with US 231.



19

From the intersection of US 98 and CR 386, Alternative 19 follows CR 386 utilizing the urban typical section up to North 15th Street. From there it transitions to a rural typical section and continues north along existing CR 386 for approximately 0.5 mile where it then turns west and travels on new alignment for approximately 3.0 miles. The alignment veers to the north for approximately 2.5 miles and then, utilizing a new high level bridge crosses over East Bay and the ICWW. The alignment returns to grade on Allanton Point and continues to the north mostly along existing Allanton/Old Allanton Road until it reaches SR 22. After crossing SR 22, the road has two options. One would turn west to travel on a new alignment for approximately 5.0 miles to intersect with Star Ave. about 0.3 mile south of Tram Road. From the intersection at Star Ave., Alternative 19 transitions to an urban typical section, continues west 0.7 mile to merge with and follow Tram Road for approximately 0.5 mile and then turns to the west on a new alignment to end at a new intersection with US 98 (Tyndall Parkway). Alternately, Alignment 19 would continue north on a new alignment for approximately 6.2 miles where it turns to the west, continuing on a new alignment along the south property line of the Port of Panama City IDC and its Conservation Boundary. It then transitions to an urban typical section and turns to the northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231.

Figure ES-9: Gulf Coast Parkway Alternative Alignments



ES.7. How much would the project cost and how much has been funded?

FDOT has developed estimated project costs (shown in **Table ES-3**) for design; right-of-way acquisition; construction; and wetland mitigation for each of the Build Alternatives (**Section 2.7.5.3**).

Table ES-3: Estimated Gulf Coast Parkway Alternatives' Construction Costs

Alternatives	Right-of-Way	Wetland Mitigation	Total 4-Lane Construction Costs*	Total Costs
	\$Millions	\$Millions	\$Millions	\$Millions
No Build	\$0.00	\$0.00	\$0.00	\$0.00
8	\$42.70	\$33.91	\$424.69	\$501.30
14	\$46.60	\$50.36	\$470.68	\$567.64
15	\$48.35	\$50.82	\$517.12	\$616.29
17	\$44.70	\$43.87	\$430.32	\$518.89
19	\$47.90	\$57.51	\$454.43	\$559.84

*Includes an additional 15% for Design and 15% for Construction, Engineering and Inspection (CEI)

Table ES-4 presents construction segments and the funding schedule for the project development phases of the recommended alternative for the Gulf Coast Parkway (**Section 1.5**).

Those construction segments that are located in Bay County are addressed in *Direction 2035 Shaping Our Future*, the Bay County TPO's LRTP 2035 update. Those segments within Gulf County will be shown in the FDOT's Five-Year Work Program when they fall within the planning window of the appropriate Five-Year Work Program.

Funding for design, right-of-way acquisition, and construction of Segment 8 of the Gulf Coast Parkway has already been acquired; however, the 2014-2018 Transportation Improvement Program (TIP), adopted in July 2013, omitted Segment 8 of the Gulf Coast Parkway project. The FDOT is working with the Bay County TPO to amend the 2014-2018 TIP to include the Segment 8 funding (see **Appendix O** for FDOT request for a TIP amendment). All other project development phases for the remaining project segments are outside of this five-year programming window. The planning consistency of the project is discussed further in Section 1.5 and planning consistency documentation is provided in Appendix O.

Table ES-4: Construction Segments and Funding Schedule for Gulf Coast Parkway*

Work Program Number	Description	Design		Right of Way		Construction	
		Funding Period**	Cost***	Funding Period	Cost	Funding Period	Cost
410981-8	From CR 2315 (Star Avenue) to SR 30A (US 98)	2014	\$2.0	2015	\$2.365	2016	\$13.327
410981-7	From SR 22 westward on new alignment north of and parallel to SR 22 to new intersection with Star Avenue 1,600 feet south of Tram Road	2036	\$8.0	2038	\$1.8	2040	\$53.1
410981-9	From intersection of Gulf Coast Parkway with Star Avenue, north along existing Star Avenue for 2.1 miles, then northwest on new alignment for 2.36 miles to intersect US 231. Includes flyover over Bay Line Railroad and US 231 and new intersection configuration with US 231, CR 390, and SR 2321.	2040	\$7.6	2043	\$1.8	2045	\$50.9
410981-6	From northern end of approach to proposed bridge over East Bay north on new alignment until it reaches CR 2297. Travels north over existing CR 2297 until it diverges into Old Allanton Road/Kenner Road and then continues north over existing Old Allanton/Kenner Road until it intersects with SR 22.	Beyond 2050	\$10.1	Beyond 2050	\$11.9	Beyond 2050	\$67.5
410981-5	From southern approach of proposed bridge over East Bay to northern approach of bridge.	Beyond 2050	\$23.8	Beyond 2050	\$4.0	Beyond 2050	\$158.6
410981-4	From intersection of CR 386 with proposed Gulf to Bay Highway west and then northwest along new alignment until the southern approach of proposed bridge over East Bay.	Beyond 2050	\$7.5	Beyond 2050	\$8.8	Beyond 2050	\$50.0
410981-3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway	Beyond 2050	\$0.9	Beyond 2050	\$14.7	Beyond 2050	\$5.9

* Segment 410981-1 was the original Opportunity Florida PD&E Study and Segment 410981-2 is the current PD&E Study.

**Fiscal Year

***in million dollars

ES.8. How would the project be built?

The project is anticipated to be constructed in segments based on a variety of factors including the need for connectivity, transportation demand, and availability of funding. **Figure ES-10** shows the proposed construction segments for each alternative. In some segments, the interim roadway construction may be constructed with two 12-foot lanes with either the rural or urban typical section, depending on location and traffic demand at the time of construction; however, the additional right-of-way will still be obtained in order to provide for expansion to the four-lanes required to meet design year traffic demands.

The first segment to be advance will be Segment 8, which has design scheduled for 2014, right-of-way acquisition scheduled for 2015, and construction scheduled for 2016. Segment 7 would follow with design scheduled in 2036, right-of-way acquisition in 2038, and construction in 2040. Segment 9 would begin design in 2040, with right-of-way acquisition in 2043, and construction in 2045. All

Figure ES-10: Gulf Coast Parkway Construction Segments



remaining segments would not begin until after 2050. It is anticipated that design, right-of-way acquisition, and construction of Segments 6, 5, and 4, which include the bridge across East Bay, would occur concurrently. Design, right-of-way acquisition, and construction of Segment 3 would occur last.

ES.9 What are the potential project impacts?

Section 3 of this report describes the existing conditions in the study area. Section 4 presents the detailed studies that were conducted to determine the effects of the project alternatives on the social, natural, and physical environment. **Table ES-5** summarizes the potential impacts of the project alternatives on the environmental resources in the study area which have been discussed in detail in Section 4 of this report.

Table ES-5: Summary of Impacts and Benefits

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Transportation Impacts							
Traffic Operations	Continued poor and worsening operation on US 98 (Tyndall Parkway), US 231, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue for extended periods.	Improved operation on US 98 from Tram Road to Transmitter Road and US 98 from CR 386 to Tyndall AFB, US 231 from Transmitter Road to east, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue.	Improved operation on US 98 from Tram Road to Transmitter Road and US 98 from CR 386 to Tyndall AFB, US 231 from Star Avenue to the east, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue.	Improved operation on US 98 from Tram Road to Transmitter Road and US 98 from CR 386 to Tyndall AFB, US 231 from Star Avenue to the east, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue.	Improved operation on US 98 from Tram Road to Transmitter Road and US 98 from CR 386 to Tyndall AFB, US 231 from Transmitter Road to east, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue.	Improved operation on US 98 from Tram Road to Transmitter Road and US 98 from CR 386 to Tyndall AFB, US 231 from Star Avenue to the east, and SR 22 from US 98 (Tyndall Parkway) to Star Avenue.	2.7.4
Access	No changes in access.	Improved connection to US 231 and US 98 (Tyndall Parkway).	Improved connection to US 231 and US 98 (Tyndall Parkway).	Improved connection to US 231 and US 98 (Tyndall Parkway).	Improved connection to US 231 and US 98 (Tyndall Parkway).	Improved connection to US 231 and US 98 (Tyndall Parkway).	4.1.4
Bicycle/Pedestrian	No change beyond programmed improvements	Provision of bicycle and pedestrian facilities which also improve trail network in the vicinity of US 98 (Tyndall Parkway) and connect south of US 231 with north of US 231.	Provision of bicycle and pedestrian facilities which also improve trail network in the vicinity of US 98 (Tyndall Parkway).	Provision of bicycle and pedestrian facilities which also improve trail network in the vicinity of US 98 (Tyndall Parkway).	Provision of bicycle and pedestrian facilities which also improve trail network in the vicinity of US 98 (Tyndall Parkway) and connect south of US 231 with north of US 231.	Provision of bicycle and pedestrian facilities which also improve trail network in the vicinity of US 98 (Tyndall Parkway).	4.3.1
Safety	No change over existing conditions	Improved safety due to added capacity, separation of opposing traffic, provision of bicycle and pedestrian facilities, and signalization of intersections.	Improved safety due to added capacity, separation of opposing traffic, provision of bicycle and pedestrian facilities, and signalization of intersections.	Improved safety due to added capacity, separation of opposing traffic, provision of bicycle and pedestrian facilities, and signalization of intersections.	Improved safety due to added capacity, separation of opposing traffic, provision of bicycle and pedestrian facilities, and signalization of intersections.	Improved safety due to added capacity, separation of opposing traffic, provision of bicycle and pedestrian facilities, and signalization of intersections.	4.1.1.5
Social and Economic Conditions							
Community Services	No change over existing	Improves accessibility, especially for delivery of emergency services. Also, greatly shortens detour route when US 98 is closed to through traffic.	Improves accessibility, especially for delivery of emergency services. Also, greatly shortens detour route when US 98 is closed to through traffic.	Improves accessibility, especially for delivery of emergency services. Also, greatly shortens detour route when US 98 is closed to through traffic.	Improves accessibility, especially for delivery of emergency services. Also, greatly shortens detour route when US 98 is closed to through traffic.	Improves accessibility, especially for delivery of emergency services. Also, greatly shortens detour route when US 98 is closed to through traffic.	4.1.1.4

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Community Cohesion	No change over existing	No splitting of neighborhoods; however, the separation of neighborhoods/communities along existing routes utilized by the Gulf Coast Parkway (GCP) would increase. This would be offset by the provision of crosswalks and signalization.	No splitting of neighborhoods; however, the separation of neighborhoods/communities along existing routes utilized by the GCP would increase. This would be offset by the provision of crosswalks and signalization.	No splitting of neighborhoods; however, the separation of neighborhoods/communities along existing routes utilized by the GCP would increase. This would be offset by the provision of crosswalks and signalization.	No splitting of neighborhoods; however, the separation of neighborhoods/communities along existing routes utilized by the GCP would increase. This would be offset by the provision of crosswalks and signalization.	No splitting of neighborhoods; however, the separation of neighborhoods/communities along existing routes utilized by the GCP would increase. This would be offset by the provision of crosswalks and signalization.	4.1.1.3
Emergency Services/Evacuation	No improvement	Improvement due to increased capacity and provision of an alternative route.	Improvement due to increased capacity and provision of an alternative route.	Improvement due to increased capacity and provision of an alternative route.	Improvement due to increased capacity and provision of an alternative route.	Improvement due to increased capacity and provision of an alternative route.	4.1.1.4
Disproportionate Impacts	N/A	No involvement with low income or minority communities.	No involvement with low income or minority communities.	No involvement with low income or minority communities.	No involvement with low income or minority communities.	No involvement with low income or minority communities.	4.1.1.2
Land Use Change	None expected	Land use change due to right of way acquisition. 0.72 mile incompatible land use.	Land use change due to right of way acquisition. 1.23 mile of incompatible land use.	Land use change due to right of way acquisition. 0.72 mile incompatible land use.	Land use change due to right of way acquisition. 0.0 mile of incompatible land use.	Land use change due to right of way acquisition. 0.51 mile of incompatible land use.	4.1.3.1
Consistency with Local Plans	Not consistent with local plans	Consistent with local plans	Consistent with local plans	Consistent with local plans	Consistent with local plans	Consistent with local plans	
Relocations	None	32 residences and 3 businesses would be displaced.	32 residences and 4 businesses would be displaced.	32 residences and 3 businesses would be displaced.	26 residences and 3 businesses would be displaced.	26 residences and 4 businesses would be displaced.	4.1.6
Induced Growth	None	Induced growth projected in the Panama City Inc. Potentially Affected Resource Area (PARA), Wetappo PARA, Wewahitchka PARA, and Enterprise Zone PARA	Induced growth projected in the Panama City Inc. PARA, Wetappo PARA, Wewahitchka PARA, and Enterprise Zone PARA	Induced growth projected in the Bayou George PARA, Panama City Inc. PARA, Bay County Uninc. PARA, Wetappo PARA, Wewahitchka PARA, and Enterprise Zone PARA	Induced growth projected in the Panama City Inc. PARA, Wetappo PARA, Gulf County Uninc. PARA, and Enterprise Zone PARA	Induced growth projected in the Panama City Inc. PARA, Gulf County Uninc. PARA and Enterprise Zone PARA	4.3.20.3

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Economic	None	Would improve freight transportation by providing 4-lane facility, would improve access to coast for tourists, would encourage economic development along Tram Road and Star Avenue, and would encourage businesses to locate in Gulf County enterprise zones.	Would improve freight transportation by providing 4-lane facility, would improve access to coast for tourists, would encourage commercial development in Bayou George PARA, would encourage economic development along Tram Road, would encourage businesses to locate in Gulf County enterprise zones. Would enhance freight transfer between the Port of Port St. Joe and the Port of Panama City Intermodal Distribution Center.	Would improve freight transportation by providing 4-lane facility, would improve access to coast for tourists, would encourage economic development along Tram Road, would encourage businesses to locate in Gulf County enterprise zones.	Would improve freight transportation by providing 4-lane facility, would improve access to coast for tourists, would encourage economic development on Allanton Point, would encourage economic development along Tram Road and Star Avenue, and would encourage economic development along GCP alignment north of Mexico Beach. Would enhance freight transfer between the Port of Port St. Joe and the Port of Panama City Intermodal Distribution Center.	Would improve freight transportation by providing 4-lane facility, would improve access to coast for tourists, would encourage commercial development in Bayou George PARA, would encourage economic development on Allanton Point, would encourage economic development along Tram Road, and would encourage economic development along GCP alignment north of Mexico Beach. Would enhance freight transfer between the Port of Port St. Joe and the Port of Panama City Intermodal Distribution Center.	4.1.2
Cultural Resources Impacts							
Historic	No impacts	SHPO concurs no impacts to terrestrial resources. No impacts to underwater resources likely.	SHPO concurs no impacts to terrestrial resources. No impacts to underwater resources likely.	SHPO concurs no impacts to terrestrial resources. No impacts to underwater resources likely.	SHPO concurs no impacts to terrestrial resources. Underwater survey being conducted.	SHPO concurs no impacts to terrestrial resources. Underwater survey being conducted.	4.2.1
Recreation	No impacts	Would improve trail connectivity, would improve access to beaches.	Would improve trail connectivity, would improve access to beaches.	Would improve trail connectivity, would improve access to beaches.	Would improve trail connectivity, would improve access to beaches.	Would improve trail connectivity, would improve access to beaches.	4.2.2
Environmental Impacts							
Air Quality	No change expected	No change expected until USEPA and Bay County formalize the updated Air Quality Standards for this area. The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the	No change expected until USEPA and Bay County formalize the updated Air Quality Standards for this area. The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the criteria provided in the	No change expected until USEPA and Bay County formalize the updated Air Quality Standards for this area. The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the	No change expected until USEPA and Bay County formalize the updated Air Quality Standards for this area. The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the	No change expected until USEPA and Bay County formalize the updated Air Quality Standards for this area. The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the	4.3.2

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
		criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.	Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.	criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.	criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.	criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.	
Noise	No change expected	2 receivers impacted	1 receiver impacted	1 receiver impacted	2 receivers impacted	1 receiver impacted	4.3.3
Wetlands	No known impacts	209.4 acres low quality 130.1 acres high quality 339.5 acres impacted Functional loss: 203.2 acres Consultation with state and federal resource agencies and USACE is ongoing. Specific mitigation will be defined once the preferred alternative is selected.	303.3 acres low quality 200.4 acres high quality 503.7 acres impacted Functional loss: 302.6 acres Consultation with state and federal resource agencies and USACE is ongoing. Specific mitigation will be defined once the preferred alternative is selected.	339.9 acres low quality 168.4 acres high quality 508.3 acres impacted Functional loss: 299.2 acres Consultation with state and federal resource agencies and USACE is ongoing. Specific mitigation will be defined once the preferred alternative is selected.	261.0 acres low quality 177.8 acres high quality 438.8 acres impacted Functional loss: 267.8 acres Consultation with state and federal resource agencies and USACE is ongoing. Specific mitigation will be defined once the preferred alternative is selected.	333.9 acres low quality 241.3 acres high quality 575.2 acres impacted Functional loss: 348.7 acres Consultation with state and federal resource agencies and USACE is ongoing. Specific mitigation will be defined once the preferred alternative is selected.	4.3.4
Essential Fish Habitat (EFH)	No Impacts	Potential for adverse effects to EFH. Surveys indicate some potential direct effects on emergent marsh, bivalves, or marine benthic sediments. Consultation with NMFS is ongoing.	Potential for adverse effects to EFH. Surveys indicate some potential direct effects on emergent marsh, bivalves, or marine benthic sediments. Consultation with NMFS is ongoing.	Potential for adverse effects to EFH. Surveys indicate some potential direct effects on emergent marsh, bivalves, or marine benthic sediments. Consultation with NMFS is ongoing.	Potential for adverse effects to EFH. Surveys indicate some potential direct effects on emergent marsh, bivalves, or marine benthic sediments. Consultation with NMFS is ongoing.	Potential for adverse effects to EFH. Surveys indicate some potential direct effects on emergent marsh, bivalves, or marine benthic sediments. Consultation with NMFS is ongoing.	4.3.5
Aquatic Preserves	No involvement	No involvement	No involvement	No involvement	No involvement	No involvement	4.3.6
Water Quality	No improvement	Provides stormwater treatment before discharge	Provides stormwater treatment before discharge	Provides stormwater treatment before discharge	Provides stormwater treatment before discharge	Provides stormwater treatment before discharge	4.3.7
Outstanding Florida Waters	No change	No involvement	No involvement	No involvement	No involvement	No involvement	4.3.8
Contamination Sites	No involvement	Involvement with 4 low risk sites and 1 medium risk site.	Involvement with 3 low risk sites.	Involvement with 3 low risk sites.	Involvement with 4 low risk sites and 1 medium risk site.	Involvement with 3 low risk sites.	4.3.9
Wild and Scenic Rivers	None present	None present	None present	None present	None present	None present	4.3.10
Floodplains	No change over existing	Involvement with floodplains and Calloway Creek floodway. All structures will be designed to cause no significant change in backwater. Consultation with Bay County and Gulf Counties, the	Involvement with floodplains and Calloway Creek floodway. All structures will be designed to cause no significant change in backwater. Consultation with Bay and Gulf Counties, the FEMA	Involvement with floodplains and Calloway Creek floodway. All structures will be designed to cause no significant change in backwater. Consultation with Bay and Gulf Counties, the FEMA	Involvement with floodplains and Calloway Creek floodway. All structures will be designed to cause no significant change in backwater. Consultation with Bay	Involvement with floodplains and Calloway Creek floodway. All structures will be designed to cause no significant change in backwater. Consultation with Bay County and Gulf	4.3.11

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
		Federal Emergency Management Agency (FEMA) designated representatives, has occurred. The project has been designed to be consistent with the regulated floodway.	designated representatives, has occurred. The project has been designed to be consistent with the regulated floodway.	designated representatives, has occurred. The project has been designed to be consistent with the regulated floodway.	County and Gulf Counties, the FEMA designated representatives, has occurred. The project has been designed to be consistent with the regulated floodway.	Counties, the FEMA designated representatives, has occurred. The project has been designed to be consistent with the regulated floodway.	
Coastal Zone Consistency	N/A	Determined consistent.	Determined consistent.	Determined consistent.	Determined consistent.	Determined consistent.	4.3.12
Coastal Barrier Resources	No change	No involvement	No involvement	No involvement	No involvement	No involvement	4.3.13
Wildlife and Habitat	No change	Species involvement determinations vary. Desktop: 15 state or federal species identified. Field: 30 state or federal species identified. Consultation with the USFWS and FFWCC is on-going.	Species involvement determinations vary. Desktop: 21 state or federal species identified. Field: 18 state or federal species identified. Consultation with the USFWS and FFWCC is on-going	Species involvement determinations vary. Desktop: 14 state or federal species identified. Field: 24 state or federal species identified. Consultation with the USFWS and FFWCC is on-going	Species involvement determinations vary. Desktop: 7 state or federal species identified. Field: 21 state or federal species identified. Consultation with the USFWS and FFWCC is on-going	Species involvement determinations vary. Desktop: 4 state or federal species identified. Field: 5 state or federal species identified. Consultation with the USFWS and FFWCC is on-going	4.3.14
Prime and Unique Farmlands	No involvement	No involvement	No involvement	14.9 acres of Prime Farmland Consultation with the Natural Resource Conservation Services (NRCS) has occurred.	No involvement	No involvement	4.3.15
Scenic Highways	None present	None present	None present	None present	None present	None present	4.3.16
Utilities and Railroads	No involvement with utilities. Existing at grade railroad crossings will continue with no improvements	Involvement with eight electrical crossings, parallel 5,720 feet with electrical easement, no other involvement. Would provide fly-over of Bay Line Railroad.	Involved with 11 electrical crossings, parallel 5,720 feet to utility easement, parallel 7,150 feet to electrical utility, 22,480 feet parallel to oil, water or gas easement. Would continue at grade crossing of Bay Line Railroad in congested area.	Involved with seven electrical crossings, 5,720 feet parallel other utility, no other involvement. Would continue at-grade crossing of Bay Line Railroad	Involvement with 8 electrical utility crossings, no lateral or transverse involvement with oil, water, or gas line; no other utility involvement. Would provide fly-over of Bay Line Railroad.	Involved with eight electrical crossings, parallel 20,070 feet of electrical easement, 1 oil, water, or gas line crossing, no other involvement. Would continue at-grade crossing of Bay Line Railroad	4.3.17
Navigation	No involvement	New high-level crossing of Wetappo and ICWW. Consultation with the USCG is on-going.	New high-level crossing of Wetappo and ICWW. Consultation with the USCG is on-going.	New high-level crossing of Wetappo and ICWW. Consultation with the USCG is on-going.	New high-level crossing of East Bay and ICWW channel. Consultation with the USCG is on-going.	New high-level crossing of East Bay and ICWW channel. Consultation with the USCG is on-going.	4.3.18

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Cumulative Effects							
Wetlands	<p>The worst case estimate of potential unmitigated involvement of the No Build Future Development Scenario with wetlands is 14,478 acres, or 4.8 percent of the total wetlands within the ICE study area.</p>	<p>The worst case estimate of potential unmitigated involvement of Alternative 8 Future Development Scenario with wetlands is 15,891 acres. Of this amount, 340 acres are due to the direct effects of the project and 1,073 acres would be due to project induced development.</p>	<p>The worst case estimate of potential unmitigated involvement of Alternative 14 Future Development Scenario with wetlands is 16,770 acres. Of this amount, 504 acres are due to the direct effects of the project and 1,788 acres would be due to project induced development.</p>	<p>The worst case estimate of potential unmitigated involvement of Alternative 15 Future Development Scenario with wetlands is 15,989 acres. Of this amount, 514 acres are due to the direct effects of the project and 997 acres would be due to project induced development.</p>	<p>The worst case estimate of potential unmitigated involvement of Alternative 17 Future Development Scenario with wetlands is 16,293 acres. Of this amount, 439 acres are due to the direct effects of the project and 1,376 would be due to project induced development.</p>	<p>The worst case estimate of potential unmitigated involvement of Alternative 19 Future Development Scenario with wetlands is 16,798 acres. Of this amount, 575 acres are due to the direct effects of the project and 1,745 acres would be due to project induced development.</p>	4.3.20
	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	<p>Since the unmitigated wetland involvement is less than 6 percent of total wetlands and since avoidance, minimization and mitigation would be required prior to development occurring, it was determined that there would be an impact on, but not a significant adverse effect on wetlands.</p>	
Floodplains	<p>The No Build Future Development Scenario is estimated to have potential unmitigated involvement with 12,675 acres of 100-year floodplain, or 3.4 percent of total floodplain within the ICE study area.</p>	<p>Alternative 8 Future Development Scenario is estimated to have potential unmitigated involvement with 14,042 acres of 100-year floodplain. Of this amount, 366 acres are due to the direct effects of the project and 1,001 acres would be due to project induced development.</p>	<p>Alternative 14 Future Development Scenario is estimated to have potential unmitigated involvement with 14,572 acres of 100-year floodplain. Of this amount, 354 acres are due to the direct effects of the project and 1,543 acres would be due to project induced development.</p>	<p>Alternative 15 Future Development Scenario is estimated to have potential unmitigated involvement with 14,053 acres of 100-year floodplain. Of this amount, 370 acres are due to the direct effects of the project and 1,008 acres would be due to project induced development.</p>	<p>Alternative 17 Future Development Scenario is estimated to have potential unmitigated involvement with 13,822 acres of 100-year floodplain. Of this amount, 202 acres are due to the direct effects of the project and 945 acres would be due to project induced development.</p>	<p>Alternative 19 Future Development Scenario is estimated to have potential unmitigated involvement with 14,297 acres of 100-year floodplain. Of this amount, 265 acres are due to the direct effects of the project and 1,357 acres would be due to project induced development.</p>	4.3.20
	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year floodplain and since</p>	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year</p>	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year floodplain and since future</p>	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year floodplain</p>	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year</p>	<p>Since the unmitigated floodplain involvement is less than 4 percent of the total 100-year</p>	

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
	future development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	floodplain and since future development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	and since future development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	floodplain and since future development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	floodplain and since future development would be required to comply with land development regulations and provide runoff control, it was determined that there would be involvement with floodplains but not a substantial adverse effect.	
EFH	<p>The No Build Future Development Scenario would have an estimated 3 acres of involvement with riverine EFH, or less than 1 percent of total riverine EFH in the ICE study area.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	<p>Alternative 8 Future Development Scenario would have an estimated 10 acres of potential involvement with marsh EFH, or 0.25 percent of total marsh EFH in the ICE study area and no involvement with riverine EFH.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	<p>Alternative 14 Future Development Scenario would have an estimated 10 acres of potential involvement with marsh EFH, or 0.25 percent of total marsh EFH in the ICE study area and no involvement with riverine EFH.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	<p>Alternative 15 Future Development Scenario would have an estimated 10 acres of potential involvement with marsh EFH, or 0.25 percent of total marsh EFH in the ICE study area and no involvement with riverine EFH.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	<p>Alternative 17 Future Development Scenario would have an estimated 51 acres of potential involvement with marsh EFH, or 0.75 percent of total marsh EFH in the ICE study area and no involvement with riverine EFH.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	<p>Alternative 19 Future Development Scenario would have an estimated 51 acres of potential involvement with marsh EFH, or 0.75 percent of total marsh EFH in the ICE study area and no involvement with riverine EFH.</p> <p>Since the potential involvement with EFH is less than 1 percent of EFH and since mitigation would be required for any actual impacts, it was determined that there would be an impact, but not a substantial adverse effect.</p>	4.3.20
Water Quality	The No Build Future Development Scenario was estimated to create 10,664 acres of new impervious surface area or 3.7 percent of the ICE study area.	Alternative 8 Future Development Scenario was estimated to create 11,814 acres of new impervious surface area, or 4.1 percent of the ICE study area.	Alternative 14 Future Development Scenario was estimated to create 12,401 acres of new impervious surface area, or 4.3 percent of the ICE study area.	Alternative 15 Future Development Scenario was estimated to create 11,944 acres of new impervious surface area, or 4.2 percent of the ICE study area.	Alternative 17 Future Development Scenario was estimated to create 12,194 acres of new impervious surface area, or 4.3 percent of the ICE study area.	Alternative 19 Future Development Scenario was estimated to create 12,008 acres of new impervious surface area, or 4.2 percent of the ICE study area.	4.3.20

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Wildlife and Habitat	<p>The No Build Future development Scenario was estimated to have involvement with 31,225 acres, or 3.8 percent of the total lands in the ICE study area that have been ranked in accordance with the FFWCC Integrated Wildlife Habitat Ranking system.</p>	<p>Alternative 8 Future development Scenario was estimated to have involvement with 34,348 acres, or 4.2 percent, of ranked lands within the Integrated Wildlife Habitat Ranking system. Of this amount, 963 acres are due to direct impacts of the project and 2,160 acres would be due to project induced development.</p>	<p>Alternative 14 Future development Scenario was estimated to have involvement with 36,086 acres, or 4.4 percent, of ranked lands within the Integrated Wildlife Habitat Ranking system. Of this amount, 1,207 acres are due to direct impacts of the project and 3,654 acres would be due to project induced development.</p>	<p>Alternative 15 Future development Scenario was estimated to have involvement with 35,074 acres, or 4.4 percent, of ranked lands within the Integrated Wildlife Habitat Ranking system. Of this amount, 1,317 acres are due to direct impacts of the project and 2,532 acres are due to project induced development.</p>	<p>Alternative 17 Future development Scenario was estimated to have involvement with 35,172 acres, or 4.4 percent, of ranked lands within the Integrated Wildlife Habitat Ranking system. Of this amount, 791 acres are due to direct impacts of the project and 3,156 acres are due to project induced development.</p>	<p>Alternative 19 Future development Scenario was estimated to have involvement with 36,100 acres, or 4.4 percent, of ranked lands within the Integrated Wildlife Habitat Ranking system. Of this amount, 992 acres are due to direct impacts of the project and 3,883 acres are due to project induced development.</p>	4.3.20
	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the Panama City Crayfish (PCC) habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 7,527 acres, or 21.3 percent, of PCC habitat would be subject to development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the PCC habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 9,427 acres, or 26.7 percent, of PCC habitat would be subject to development. Of this amount, 126 acres is due to the direct effects of the proposed project and 1,774 acres are due to project induced development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the PCC habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 8,900 acres, or 25.2 percent, of PCC habitat would be subject to development. Of this amount, 44 acres is due to the direct effects of the proposed project and 1,329 acres are due to project induced development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the PCC habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 8,900 acres, or 25.2 percent, of PCC habitat would be subject to development. Of this amount, 44 acres is due to the direct effects of the proposed project and 1,329 acres are due to project induced development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the PCC habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 9,427 acres, or 26.7 percent, of PCC habitat would be subject to development. Of this amount, 126 acres is due to the direct effects of the proposed project and 1,774 acres are due to project induced development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	<p>Most impacts to individual species habitats are less than 5 percent of the available habitat. The exception to this is the PCC habitat. Of the 35,311 acres of PCC habitat within the ICE study area, 8,900 acres, or 25.2 percent, of PCC habitat would be subject to development. Of this amount, 44 acres is due to the direct effects of the proposed project and 1,329 acres are due to project induced development. If the proposed habitat conservation agreement under development, or similar action, is not implemented, then the cumulative effects of future actions could have a substantial adverse effect on the PCC.</p>	
Construction Impacts							

Resource	Alternatives						Reference EIS Section
	No Build	8	14	15	17	19	
Transportation	No construction effects	Temporary congestion and road closures.	Temporary congestion and road closures.	Temporary congestion and road closures.	Temporary congestion and road closures.	Temporary congestion and road closures.	4.3.21
Visual and Aesthetics	No construction effects	Temporary view of construction activities along existing roads used in GCP alignment and at intersections with existing roads.	Temporary view of construction activities along existing roads used in GCP alignment and at intersections with existing roads.	Temporary view of construction activities along existing roads used in GCP alignment and at intersections with existing roads.	Temporary view of construction activities along existing roads used in GCP alignment and at intersections with existing roads.	Temporary view of construction activities along existing roads used in GCP alignment and at intersections with existing roads.	4.3.21
Air Quality	No construction effects	Fugitive dust and burning of debris.	Fugitive dust and burning of debris.	Fugitive dust and burning of debris.	Fugitive dust and burning of debris.	Fugitive dust and burning of debris.	4.3.21
Noise and Vibration	No construction effects	Vibration from construction equipment in proximity to sensitive receptors, particularly pile driving for structures. Construction noise at sensitive receivers.	Vibration from construction equipment in proximity to sensitive receptors, particularly pile driving for structures. Construction noise at sensitive receivers.	Vibration from construction equipment in proximity to sensitive receptors, particularly pile driving for structures. Construction noise at sensitive receivers.	Vibration from construction equipment in proximity to sensitive receptors, particularly pile driving for structures. Construction noise at sensitive receivers.	Vibration from construction equipment in proximity to sensitive receptors, particularly pile driving for structures. Construction noise at sensitive receivers.	4.3.21
Cultural Resources	No construction effects	Potential impacts to unknown archaeological sites due to excavation.	Potential impacts to unknown archaeological sites due to excavation.	Potential impacts to unknown archaeological sites due to excavation.	Potential impacts to unknown archaeological sites due to excavation.	Potential impacts to unknown archaeological sites due to excavation.	4.3.21
Water Quality	No construction effects	Sedimentation	Sedimentation	Sedimentation	Sedimentation	Sedimentation	4.3.21
Wetlands	No construction effects	Sedimentation	Sedimentation	Sedimentation	Sedimentation	Sedimentation	4.3.21
Wildlife	No construction effects	Potential disturbance of wildlife, potential introduction of undesirable plants.	Potential disturbance of wildlife, potential introduction of undesirable plants.	Potential disturbance of wildlife, potential introduction of undesirable plants.	Potential disturbance of wildlife, potential introduction of undesirable plants.	Potential disturbance of wildlife, potential introduction of undesirable plants.	4.3.21
Contamination Sites	No construction effects	Potential involvement with unknown contamination in groundwater.	Potential involvement with unknown contamination in groundwater.	Potential involvement with unknown contamination in groundwater.	Potential involvement with unknown contamination in groundwater.	Potential involvement with unknown contamination in groundwater.	4.3.21
Navigation	No construction effects	Potential for increased hazards to vessels during construction of high-level bridge if in-water construction equipment used.	Potential for increased hazards to vessels during construction of high-level bridge if in-water construction equipment used.	Potential for increased hazards to vessels during construction of high-level bridge if in-water construction equipment used..	Potential for increased hazards to vessels during construction of high-level bridge if in-water construction equipment used..	Potential for increased hazards to vessels during construction of high-level bridge if in-water construction equipment used..	4.3.21

ES.9. What issues are controversial or remain to be resolved?

During the review of the project in the EST, the ETAT identified several issues as Dispute Resolution (**Table ES-6**). The following table identifies each issue identified as Dispute Resolution and summarizes the agencies concerns regarding these issues (**Section 5.3**). A complete summary of all ETAT comments and FDOT responses are provided in **Appendix I**.

Table ES-6: Summary of Dispute Resolution Issues and Resource Agency Concerns

Dispute Resolution Issue	Resource Agencies Claiming Dispute Resolution	Agency Concerns & Recommendations	Status
Coastal and Marine	NMFS	Federal agencies which permit, fund, or undertake activities which may impact EFH must consult with NMFS and prepare an EFH assessment.	EFH assessment was prepared and circulated to NMFS. Consultation is on-going with NMFS
		In addition to direct impacts, concerned about the maintenance of natural hydrologic patterns and freshwater inflow to estuarine waters; and pollutants in stormwater runoff from road surface.	Project effects on EFH Resources are discussed in Section 4.3.5
ICE	USEPA	Water quality and aquatic habitat protection should be priority considerations. Access control and future land use must be defined. Stormwater management must be evaluated. Additionally, the spread of invasive species as a result of rapid development is a concern.	Access control will be consistent with FDOT standards for a future SIS facility. Future land use has been addressed in Section 4.1.3 and Section 4.3.20. Stormwater management is summarized in Section 4.3.7 and discussed in detail in the Preliminary Engineering Report (PER). Invasive species will be treated in accordance with FDOT Standard Specifications for Road and Bridge Construction.
	FDEP	Stormwater runoff as a result of potential rural development and its effects of waterbodies are of particular concern.	Stormwater runoff will be treated to state standards for the receiving the water body.
	NMFS	Stormwater runoff as a result of increased residential and commercial development must be addressed. Limited access may help control sprawl.	Stormwater runoff as a result of induced growth is addressed in Section 4.3.20
	USFWS	Secondary and cumulative effects must be evaluated. Secondary and cumulative impacts to wildlife and habitat should be minimized through limited corridor access, proven roadway design, mitigation areas, wildlife crossings, environmentally-sensitive bridge crossings, non-native species control, protected and rare plant protection, water quality protection and hydrologic connection maintenance	Indirect (secondary) and cumulative effects on wildlife and habitat have been addressed in Section 4.3.20.
	NWFWMD	ICE must be analyzed. Dedicated water resource protection should be implemented, including stormwater management, waterfront buffer zones, wetland protection, wetland mitigation, construction and design best management practices (BMP), and limited access. Potential wetland mitigation plans should be considered, including early interagency planning in accordance with Florida Statutes (FS).	ICE have been analyzed. The discipline report presenting the analysis has been reviewed by the agencies and is summarized in Section 4.3.20.
Wetlands	FDEP	Wetland resource / stormwater permit applicant is required to eliminate or reduce impacts through avoidance, fill reductions, typical section, compensatory treatment, and mitigation. Cumulative Effects must be addressed. High-level bridging should be utilized for ICWW/Wetappo	Wetland mitigation will mitigated as discussed in Section 4.3.4. Cumulative effects have been addressed in Section 4.3.20. High level bridging has been proposed for alternatives utilizing the ICWW/Wetappo Creek alignment. Impacts to PCC habitat have evaluated and discussed in

Dispute Resolution Issue	Resource Agencies Claiming Dispute Resolution	Agency Concerns & Recommendations	Status
		Creek crossing. PCC habitat is a concern.	Sections 4.3.14 and 4.3.20.
	NMFS	Natural hydrology, freshwater inflow, and stormwater runoff are concerns. Impacts to EFH must be addressed	Section 4.3.5 presents the evaluation of impacts to EFH.
	NFWFMD	Direct and cumulative impacts should be minimized.	Minimization of direct impacts has been presented throughout Section 2 in the description of the development of alternatives and is summarized in Section 2.4.5.
	USACE	Due to the overall acreage of wetland impacts an EIS should be prepared. Jurisdictional determination, functional analysis, pond siting analysis, wetland avoidance / minimization, a mitigation plan, limited / restricted access, wetland crossing design, and Quality Enhancement Strategies are all recommended.	An EIS is being prepared.
Wildlife and Habitat	FFWCC	An EIS is recommended to address issues of adverse effects to natural resources, the public interest, controversial aspects requiring high agency interaction, and potential for irreversible impacts to the environment including ICE. An interagency Environmental Advisory team is also recommended, as well as participation in the Scoping Process, to address riparian system protection, need for wildlife underpass structures, runoff, population and movement surveys, and PCC mitigation.	An EIS is being prepared and includes the indirect and a cumulative effects analysis (Section 4.3.20). An interagency advisory team was utilized early in the project development process for scoping, developing issue action plans, and especially to develop the ICE analysis methodology. This group has had continued involvement in the project with the review of draft documents summarizing the effects analysis on sensitive resources.
		Impacts to protected species must be minimized or avoided, potentially through bridging, habitat acquisition / restoration, developmental balance, limited access, and growth management. In accordance with the Endangered Species Act, direct, indirect, and cumulative effects to species and habitat must be determined; this includes the red-cockaded woodpecker, flatwoods salamander, bald eagle, PCC, and protected and rare plants. Habitat fragmentation, habitat corridors, and wildlife crossings are also issues of concern, as are potential effects to migratory birds. Finally, lighting in coastal environments must be compliant with sea turtle protection.	Impacts to protected species have been minimized as much as feasible for the level of project development. As the project proceeds into the Final EIS phase, additional efforts will be made to further minimize involvement with protected species. An ICE analysis has been conducted and is presented in Section 4.3.20. This analysis addressed the species identified by the USFWS during the advisory group's participation in developing the ICE analysis methodology. The proposed project would not provide lighting in coastal environments.
	USFWS		

Consistent with FDOT's Dispute Resolution process (described in **Section 5.2**), Issue Action Plans (**Table ES-7**) have been developed. These plans (**Appendix L**) have been created in coordination with those agencies that identified dispute resolution issues in their review in order to establish the conditions for achieving resolution.

Resolving Disputes

Issue Action Plans were agreed upon by the agencies who had a dispute with the project so that an agreed upon methodology would be undertaken (via the completion of the project development and environment study) to achieve resolution.

After a preferred alternative is identified, impacts are refined, and the mitigation measures are agreed upon, then Dispute Resolution can be completed.

Table ES-7 Issue Action Plans

Issue Action Plans	Content	Status
Coastal and Marine	Outlines procedures to provide detailed information on project effects; identifies concerns to be addressed potential impact on natural hydrology and freshwater inflow to estuarine environment, effects of increased traffic and associated pollutants in stormwater, and effect of induced development; and identifies the resource agencies (NMFS and FFWCC) with which scoping and coordination will occur.	On-going
Indirect and Cumulative Effects	Outlines procedures to provide detailed information on ICE; provides for agency coordination during scoping and throughout study and opportunity to review documents.	On-going
Wetlands	Outlines procedures to provide detailed information on project effects; provides for agency coordination during scoping and throughout study and opportunity to review documents.	On-going
Wildlife and Habitat	Outlines procedures to provide detailed information on project effects; provides for agency coordination during scoping and throughout study and opportunity to review documents.	On-going

Studies have been conducted in accordance with the procedures identified in the Issue Action Plans and draft reports have been reviewed and commented upon by the resource agencies. The comments have been addressed (**Appendix J**). Reports have been modified, as appropriate, and resubmitted with response letters. **Table ES-8** summarizes the status of each discipline report.

Table ES-8: Status of Discipline Reports

Dispute Resolution Issue	Issue Discipline Report	Report Submitted	Agency Comments (Dated)	Comments Addressed, Report Revised, & Resubmitted	Concurrence Status
Coastal and Marine	EFH Report (attached as appendix to Wetland Evaluation Report {WER})	Yes	NMFS (6/21/11)	Yes	On-going
ICE	Indirect and Cumulative Effects Report	Yes	USFWS (6/1/11) NFWFMD (6/3/11) FFWCC (6/13/11) NMFS (6/21/11) USACE (7/15/11) USACE (7/16/11)	Yes	Ongoing
Wetlands	Wetlands Evaluation Report	Yes	USFWS (6/1/11) USACE (7/16/11)	Yes	Ongoing
Wildlife and Habitat	Endangered Species Biological Assessment Report	Yes	USFWS (5/18/11)	Yes	Ongoing

Coordination with the resource agencies is ongoing. Because resolution of agency concerns cannot be fully addressed until a preferred alternative is identified, impacts are refined, and the details of the mitigation measures worked out, the Dispute Resolution process will not be completed until the conclusion of the PD&E study. Although resolution of all agency concerns will not be achieved with the completion of this Draft EIS, FDOT will utilize the continuous coordination and consultation with resource agencies

as discussed in **Sections 4.3.5 and 4.3.14** to provide reasonable assurance per 23 CFR 771.133 that agency concerns will be addressed and consultation completed as required for the proposed project in the final NEPA document or subsequent project phases, as appropriate.

Issues that are controversial or remain to be resolved during the PD&E study (**Section 2.9.1**) include:

Project-induced Growth and Development

There remains some controversy over the amount of future growth and development in the study area. Because much of the study area is in large land-holdings so near to the coast, there is concern by the resource agencies that the proposed project would induce growth and development of these lands. The FDOT does not disagree that the new road could influence future development decisions by others. In fact, the ICE analysis conducted for this PD&E study identified, with the assistance of a group of professional planners (Delphi Group) familiar with the study area, potential locations where future population growth might be expected to occur. The reasons for using a Delphi Group was two-fold: one, it was expected that a groups of professional planners familiar with and practicing in the study area would provide the most informed projections of future development; and two, the use of the Delphi Group process would provide an unbiased approach to allocation of future growth in order to defray objections to the results. However, correspondence received in response to the draft ICE Report from the resource agencies indicates some disagreement with the location, size, and type of future development areas (see **Section 4.3.20 and Appendix J**). The agencies expect more development to occur along the coast. However, the Delphi Group determined that there was more than sufficient approved development capacity to accommodate the projected future population. If the resource agencies cannot accept the population projections and allocations of the Delphi Group, the likelihood of achieving resolution on this issue is low.

Recommended/Preferred Alternative

There is likely to be controversy over the recommendation and selection of a preferred alternative. As indicated in the responses to public surveys and letters and resolutions supporting specific alternatives, there are differences of opinions regarding the alternative that is most beneficial. Bay County residents and officials tend to favor Alternatives 17 and/or 19; while Gulf County residents and officials tend to favor Alternative 15 or a hybrid of Alternative 8/15. The basis for each group's preferences has to do with the importance each group places on the various elements in the purpose and need. For instance, Gulf County faction's preferences of Alternative 15 or a hybrid of Alternative 8 and 15 have to do with their perception that the

most northern connection to US 231 would provide the best route for tourists to the coastal areas and for freight traveling between the Port St. Joe Port and US 231/I-10. Whereas, Bay County faction's expressed preferences have been primarily for Alternative 17 which is seen as providing the shortest route to employment in the Panama City area, being consistent with development already occurring on the Allanton Peninsula, and connecting to other roads in the network that would carry traffic to the NWFBI. FDOT's approach to identifying a recommended alternative is presented in detail in Section 2 of this report. It utilizes a system that measures and compares the alternatives' according to criteria that determine how well each alternative meets the project's purpose and need, its involvement with environmental impacts, its cost, and public preferences. This approach was developed to prevent more emphasis being given to one criterion over another. This was important because one, there was no clear "best" alternative; and two, it was apparent whichever alternative was recommended there would be disagreement over its recommendation.

ES.11 What issues or steps will be performed in later phases of project development?

The following issues or steps remain to be accomplished in other phases of the project's development (**Section 2.9.2**).

FINAL EIS PHASE

Mitigation for Wetland Impacts.

Although the FDOT has committed to providing mitigation for adverse effects to wetlands, specific details such as location of the mitigation site, type, size, and management requirements have yet to be determined. Wetland impacts which result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 U.S.C. s. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. As mitigation methods pursuant to Section 373.4137, FS have been approved by the permitting agencies as an accepted mitigation process, the discussion in Section 4.3.4.5 illustrates that, at a conceptual mitigation level, all alternatives for the Gulf Coast Parkway project have an acceptable and available means for mitigating their wetland impacts. After identification of a recommended alternative, coordination will be conducted with the resource agencies to identify more specific details for the mitigation plan.

Detailed Uniform Mitigation Assessment Method (UMAM)

Analysis

A detailed UMAM analysis of impacted wetlands is conducted during design to determine the specific mitigation requirements for the loss of wetland functions.

Mitigation for Impacts to Essential Fish Habitat

Coordination is on-going with the NMFS to identify an appropriate level of conceptual mitigation for impacts to EFH. Mitigation banks in the study area do not have estuarine credits. Although FDOT is committed to providing mitigation for adverse effects to marine resources, a mitigation site for these impacts will likely not be identified until the permitting phase for these impacts. At the time of permitting, if there are still no mitigation banks with estuarine credits, out-of-kind credits will be utilized, with regulatory agency approval. Therefore, it is anticipated that EFH impacts which result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV. Chapter 373, F.S. and 33 U.S.C. s. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

Additional Seasonal Wildlife and Plant Surveys

Additional seasonal wildlife and plant surveys within the preferred alternative's alignment will be conducted to identify the presence of any plant species that bloom during periods other than those already surveyed, to identify the need for wildlife "take" permits, and for identification of potential plants requiring relocation.

Completion of the Section 7 Consultation Process

The FDOT has determined the project "may affect, but is not likely to adversely affect" several listed species. Since the USFWS does not have enough information at this time to provide concurrence or non-concurrence with the FDOT's determination (pursuant to section 7 of the Act, as described in 50 CFR § 402.14), the FDOT will request that the USFWS reinitiate consultation for the project's effects after the public hearing and selection of a preferred alternative. The request to reinitiate consultation will be concurrent with development of the Final EIS for the project, once all comments from appropriate Federal, state, and local agencies and the public have been received and evaluated. In the event USFWS consultation on the project is not concluded before the final NEPA document for the project is completed, FDOT in compliance with 23 CFR 771.133 and Section 7 of the Endangered Species Act, agrees not to begin construction on the project, or otherwise make any irreversible or irretrievable commitment of resources which has the effect of foreclosing the formulation or implementation

of any reasonable and prudent alternative measures which would not violate section 7(a)(2) of the Act, until consultation with the Service is completed and final approval for the project is granted from the FHWA.

Identification of Wildlife Passage Locations

Specific location(s) of wildlife passages will be identified in order to design culvert and bridges to accommodate wildlife movements.

DESIGN PHASE

Permit Acquisition

The acquisition of permits would occur during the design phase after completion of sufficient design details to accurately determine impacts and completion of any detailed studies needed to support permit applications.

Final Design

Final design of the road, bridges, drainage structures, stormwater collection and treatment facilities, wildlife passages, and mitigation measures would occur prior to right-of-way acquisition and construction of each project segment.

RIGHT-OF-WAY ACQUISITION PHASE

Right-of-way Acquisition and Easements

Property acquisition and easements would occur prior to construction.

CONSTRUCTION PHASE








Construction

Construction would occur in phases, as identified in the LRTP.

ES.12 What permits or other governmental actions will be required?

Table ES-9 summarizes the permits and/or approvals that are required, the agency with authority to issue the permit or approval, and the authorizing regulation under which the agency acts (**Section 4.3.19**).

Table ES-9: Permits and/or Approvals Required

Branch	Agency	Regulation	Permit and/or Approval
Federal	 United States Fish and Wildlife Service	Endangered Species Act	Consultation and Biological Opinion
	 National Marine Fisheries Service	Magnuson-Stevenson Fishery Conservation and Management Act Public Law 94-265	Consultation
	 United States Army Corps of Engineers	Clean Water Act	Section 404 Individual Permit
		Section 404(b)(1)	Jurisdictional Determination for Waters of the United States
	 United States Coast Guard	Title 33 Code of Federal Regulations (CFR) Part 115	Bridge Permit
State	 Florida Department of Environmental Protection	Section 403.0885 FS	NPDES General Permit
	 Department of State, Division of Historical Resources	National Historic Preservation Act, Chapters 267 and 872 FS	Consultation and Agreement
Regional	 Northwest Florida Water Management District	Chapter 62-346 Florida Administrative Code and Chapter 40A-4 Florida Administrative Code.	Environmental Resource Permit

ES.13 What are the probable direct adverse environmental effects which cannot be avoided?

Although mitigation will be provided to offset impacts caused by the project, there are effects that cannot be avoided. These impacts vary, depending on the alternative and the resource, but include: potential displacement of between 26 and 32 residences and between 3 and 4 businesses (**Section 4.1.6**), traffic noise impacts to between one and two noise receptors (**Section 4.3.3.5**), potential loss of 339 to 573 acres of wetlands (**Section 4.3.4.1**), involvement with 9.6 to 50.8 acres of EFH (**Section 4.3.5.3**), involvement with 600 to 794 acres of verified impaired waters drainage basins and with 18 to 198 acres of Class 1 waters drainage basins (**Section 4.3.7**), potential longitudinal encroachment of between 1,000 and 4,500 feet of 100-year floodplains (**Section 4.3.11**), and involvement with approximately 44 to 126 acres of core soils associated with the PCC (a non federally listed species) (**Section 4.3.14.1**).

ES.14 What are the Irretrievable and Irreversible Commitment of Resources?

The construction and maintenance of the proposed project will require the commitment and expenditure of funds which will not be available for other projects and activities (**Section 4.4**). The commitment of financial resources will produce a one-time benefit to the local and regional economy through labor and capital expenditures for construction and, secondarily, through the flow of

the monies within the local economy. These benefits will take the form of a temporary increase in the demand for goods and services provided locally, earnings of local employees and jobs.

The construction of the proposed project requires the acquisition of property which would result in the displacement of residences and businesses. No right-of-way acquisition has occurred yet. However, when right-of-way acquisition begins, relocation assistance and payments will be provided as addressed in Section 4. The conversion of existing properties to highway use will remove that land from the county tax base. However, it is anticipated that the construction of the proposed project would enhance economic development opportunities in Gulf County by providing a high-speed, through route to tourist areas in southeast Bay and south Gulf counties. It would also encourage economic development by improving access between the enterprise zones on US 98 and CR 386 in Gulf County and I-10, the Intermodal Center on US 231, and the new Northwest Florida Beaches Airport in Bay County. Improvement in the local economy is expected to provide increase tax revenues that would offset those lost in the conversion of taxable land to non-taxable purposes.

Depending on the preferred alternative, a total of approximately 646.9 acres of acquired land would be committed for the construction and operation of the proposed project. Property acquisition represents an irreversible commitment of real property. However, should a greater need arise for the use of the land, or should the proposed project no longer be needed, the land can be converted and committed to another use.

The proposed project would also require the use of various types of fossil fuels, electrical energy, and other resources during the construction and operation. At this time, these resources are not in short supply and are considered to be readily available for the proposed project. As a result, the use of these resources is not expected to result in an adverse effect upon the continued availability of these resources.

The proposed project would require the commitment of labor during the construction period. Although the individuals working on the road construction would not be available for other projects during the construction period, and thus are considered a commitment of irretrievable resources, the employment environment, particularly in Gulf County is such, that there is an adequate supply of labor resources for this and other projects.

ES.15 How have FHWA and FDOT avoided and minimized the adverse effects of the project alternatives?

The FHWA and FDOT attempt to avoid and minimize the potential for adverse impacts on environmentally sensitive resources as much as practical throughout the project's development (**Section 2.4.5**). This effort has been coordinated with the resource agencies beginning with the publication of the project in the EST. Coordination efforts since ETDM have included the development of Issue Action Plans with agencies to establish procedures for conducting the studies to resolve agency concerns, input from an agency advisory committee, field reviews with the agencies, and document reviews by the agencies. This agency coordination is an on-going process that will continue after the selection of a preferred alternative and the more precise identification of impacts leading to the development avoidance, minimization and mitigation measures.

At the PD&E stage of project development there are two types of avoidance and minimization efforts. There is the avoidance and minimization that occurs during the development and analysis of alternatives and then there are the engineering refinements that occur after identification of a recommended alternative.

Avoidance and minimization during the development and analysis of alternatives is an iterative effort that uses the best available information to develop and refine the alternatives. This process begins with a land suitability mapping tool during the development of potential corridors (described in **Section 2.2**). After the corridor analysis stage, alternative alignments are developed within the viable corridors, again using the best available information to minimize involvement with resources (**Section 2.3.5**). Field studies of the alternatives are conducted to verify site conditions and inform adjustments to further reduce potential adverse effects. As adjustments to alternative alignments are made, the alternatives are reevaluated to determine if the changes create adverse effects on other resources. This adjustment and re-evaluation process continues until reasonable alternatives can be identified.

Once the reasonable alternatives have been identified (**Section 2.5**), the detailed analysis of impacts is conducted to present a comparison of the alternatives to the public. The results of the public involvement and the analysis of alternatives are considered by the lead agencies in identifying a recommended alternative. Once a recommended alternative is identified, additional engineering refinements are used to further avoid and/or minimize adverse project effects. An example of an engineering refinement that can be utilized to reduce impacts is a reduction in the project's footprint. A reduction in the project's footprint may be achieved by reducing the median width or steepening side slopes. These measures will be identified in the Final EIS after preliminary design of the recommended alternative.

Avoidance and Minimization through refinement of the alternatives

Avoidance through the development of the alignments occurred through several iterative steps:

1. Land Suitability Mapping
2. Corridor Analysis
3. Development of Alignments within the corridors
4. Refinement of Alignments based on field assessment of potential impacts

After a preferred alternative is identified, additional engineering refinements (such as reducing median widths or limiting access points) can be considered to further avoid and minimize adverse project effects.

Any adverse effects that cannot be avoided or minimized will require mitigation measures to offset the adverse effects. Mitigation measures will be coordinated with the regulatory and resources agencies and FDOT will provide reasonable assurance per 23 CFR 771.133 to satisfy regulatory and consultation requirements described in **Sections 4.3.5 and 4.3.14.**

ES.16 How would FHWA and FDOT mitigate for adverse impacts of the project alternatives?

After implementing all practical measures to avoid and minimize impacts to resources, the FHWA and FDOT have committed to providing compensatory mitigation for adverse effects (see **Section 6.1**). Compensatory mitigation is intended to replace or substitute for unavoidable environmental impacts and does not include all the actions that have been or will be taken during to design to further minimize environmental impacts. An example of compensatory mitigation is the creation of wetlands to replace wetlands unavoidably impacted. Other mitigation measures which FHWA and the FDOT will implement include: the provision of a stormwater system to collect and treat stormwater runoff to meet the appropriate water quality criteria for the receiving surface waters; the design of bridges and culverts to maintain hydraulic connectivity and beneficial floodplain values; and the provision of wildlife crossings to minimize fragmentation of habitats.

Wildlife Crossing

In addition, construction activities for the project may have short-term air, noise, vibration, water quality, traffic flow, and visual effects within the immediate vicinity of the project (**Section 4.3.21**). In most cases, these impacts, which are temporary and transient in nature, can be controlled by the application of FDOT's *Standard Specifications for Road and Bridge Construction* and the use of BMP. Occasionally, during planning, design, or construction other measures are identified as being warranted. In such, cases these measures are incorporated into the project.

Construction Zone



FDOT has established a commitment compliance program to ensure that commitments made during the project's development are completed during construction (**Section 6.1.1**). The primary vehicle for ensuring commitments made during the PD&E phase have been included in the design plans for the contractor is accomplished through FDOT's reevaluation process. The reevaluation process is conducted at each major stage of project development (preliminary engineering, right-of-way acquisition, and construction advertisement) and serves to ensure project compliance with all applicable Federal and state laws. It also provides the mechanism whereby commitments made during the project development process are identified, monitored, and updated, if necessary. Any new commitments or laws which may have come into effect since approval of the final environmental document are addressed in the



reevaluation. At the construction advertisement phase all relevant commitments have been included in the design plans used by the contractor to construct the project.

During construction verification of the contractor's compliance with the commitments shown on the design plans is documented by Construction Engineering Inspection (CEI) engineer who inspects the contractor's work during construction.

Steps in FDOT's commitment compliance program are listed below.

- After completion of the PD&E phase of project development, the reevaluation manager sends the approved environmental document that includes the commitments to the Design Project Manager, along with any other pertinent information the Design Project Manager needs to know. A meeting is held with the Design Project Manager to insure important elements of the project including all environmental commitments are conveyed and understood. This informs the Design Project Manager before the reevaluation phase that the project has commitments to be implemented during final design and included in the design plans/contract documents.
- Also after completion of the PD&E phase, FDOT task managers provide FDOT Permit staff with any commitments made during PD&E for inclusion in the Permit Memo to be provided to the project contractor.
- Permit staff request that the design project manager include in the General Notes on the construction plans that there are project commitments that the contractor must follow and those commitments can be found in the Permit Memo.
- The reevaluation process is then used to update the status of commitments and confirm that commitments have been addressed in the project design (if applicable) and included in the design plans/contract documents (if applicable). The reevaluation process is also used to finalize any pending coordination that required the design plans to fully document impacts to finalize any mitigation/avoidance measures deemed appropriate by the jurisdictional agency (USFWS, FFWCC, NMFS, etc.)
- During construction the CEI engineer provides feedback on and documentation that commitments required of the contractor were implemented. This feedback, including correspondence and photographs, is kept in a commitment implementation file.
- SharePoint and Project Suite are used to post commitments and commitment-related documents in the plan.

Table ES-10 is a summary of FHWA's and FDOT's commitments for mitigation as result of the impacts of this project documented throughout this report. These mitigation commitments are discussed in **Section 6.1.2**.

Table ES-10: Summary of Mitigation Commitments

Issue	Mitigation Commitments
Air Quality	<p>Appropriate fugitive dust suppression controls, such as spraying water on haul roads adjacent to construction sites, street sweeping, covering loaded trucks, and washing haul trucks before leaving construction site will be required.</p> <p>Avoidance of excessive equipment idling will be required.</p> <p>Routing of heavy truck traffic away from schools and residences when feasible will be required.</p> <p>Maintain construction equipment and ensure proper pollution controls are working.</p> <p>Preserve existing vegetation to the extent possible and re-vegetate disturbed areas promptly after construction.</p>
Noise and Vibration	<p>A land use review will be implemented during the design phase to identify noise sensitive sites that may have received a building permit subsequent to the noise study, but prior to the date of public knowledge (i.e. date the environmental document is approved by FHWA). If noise sensitive sites that have been permitted prior to the date of public knowledge are identified, then those noise sensitive sites will be evaluated for noise impacts and abatement considerations.</p> <p>Any abatement measures identified during the PD&E study will be re-evaluated during design.</p> <p>Noise control measures to be implemented by the contractor will include those contained in FDOT's <i>Standard Specifications for Road and Bridge Construction</i> Section 100-2.</p> <p>Use BMP to minimize vibration impacts from pile driving.</p> <p>Specific noise-level problems that may arise during construction of the project will be addressed by the Construction Engineer in cooperation with the appropriate Environmental Specialist</p>
Land Use	<p>Restore any temporary staging areas to pre-construction condition.</p> <p>During final design minimize to the extent practical the footprint of right-of-way required for project.</p>
Community Cohesion	<p>Where effects would be felt due to a wider roadway, signalized crosswalks and safe havens for pedestrians will be provided.</p>
Displacement	<p>During design, FDOT will investigate measures to minimize displacement of residents, businesses and churches.</p> <p>The FDOT will relocate all residents, businesses, and churches that are displaced in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).</p> <p>Residents, businesses, and churches will be relocated in the same vicinity, if feasible and desired by the relocates.</p>
Cultural Resources	<p>SHPO requested an underwater cultural resources survey be conducted after the selection of a preferred alternative. A maritime archaeology desktop evaluation has been conducted of a 1,000 foot buffer at locations where the project alternatives cross a perennial waterbody. This study concluded that Alternatives 8, 14, and 15 had a low potential for submerged cultural resources but that Alternatives 17 and 19 had a moderate probability for submerged cultural resources due to their crossing at East Bay and the history of marine traffic in the area. Therefore, the study recommended that if Alternatives 17 or 19 were selected as the preferred alternative, a remote-sensing survey should be conducted at the crossing of East Bay. No further investigations for Alternatives 8, 14, and 15 were recommended.</p> <p>Since Alternative 17 has been identified as the recommended preferred alternative, FDOT is</p>

Issue	Mitigation Commitments
	proceeding with an underwater survey of the proposed crossing of East Bay. The results of this survey, including the SHPO's concurrence with the findings, will be documented in the Final EIS.
Bicycle/ Pedestrian	Bicycle and Pedestrian facilities will be provided with this project. Consistent with 23 United States Code (USC) 109(n), the proposed bicycle/pedestrian facilities will be designed in accordance with the Florida Bicycle Facilities Planning and Design handbook and the standards of the American Association of State Highway Transportation Officials
Accessibility	The proposed project will be designed and constructed in accordance with the Americans with Disabilities Act Accessibility Guidelines to ensure accessibility of pedestrians and other non-motorized populations have access to the proposed facility
Visual Quality	Incorporate landscaping in the project's design. Use vegetative screening where feasible for sensitive viewing locations. Maintain clean work sites and stage equipment away from sensitive land uses where practicable during construction.
Water Quality	Meet all permit requirements for water quality. Implement BMP during construction to minimize water quality impacts.
Floodplains	Avoid and minimize longitudinal encroachments as much as feasible in final design. Project will be designed to be consistent with applicable regulatory and design standards, with no significant changes to base flood elevations or flood limits. Size drainage structures to quality for a FEMA No-Rise for any regulatory floodway through coordination with Bay County. Design cross drains to maintain natural and beneficial floodplain values. Implement BMP to minimize erosion and sedimentation during construction.
Wetlands	During design, jurisdictional wetlands will be field delineated. Depending on the preferred alternative, additional assessments of indirect and cumulative wetland effects (beyond the 300-foot buffer) will be considered during design and permitting. Mitigation concepts for direct wetland impacts and some indirect wetland impacts (as deemed appropriate by the FHWA, FDOT, USACE, NWFWM, etc) will be developed during design and permitting. During construction, direct and indirect effects will be minimized through appropriate stormwater design and utilization of BMP and FDOT's <i>Standard Specifications for Road and Bridge Construction</i> Section 104-5. Demucking is anticipated at most of the wetland sites and will be controlled by Section 120 of the FDOT's <i>Standard Specifications for Road and Bridge Construction</i> .
Wildlife	Supplemental seasonal surveys will be conducted during design, as needed. A Phase II Reticulated flatwoods salamander field evaluation for a representative sample of ponds within 1500 feet of the preferred alternative will be conducted during design and permitting, as needed. A survey for bald eagle nests within the preferred alternative and associated buffers will be conducted one year prior to construction, as needed.

Issue	Mitigation Commitments
	<p>Any seasonally-appropriate survey for federally-listed plants will also include state-listed plants within the preferred alternative.</p> <p>Pre-construction surveys for listed species will be conducted at appropriate times for the listed species.</p> <p>Potential impacts to manatees will be avoided and minimized by complying with <i>Standard Manatee Conditions for In-Water Work, 2011</i> and, if explosives are to be utilized, compliance with <i>Guidelines for the Protection of Manatees and Sea Turtles during the Use of Explosives in the Waters of the State of Florida</i>.</p> <p>Inclusion in the Construction Special Provisions the requirement that the Contractor comply with <i>Gulf Sturgeon Protection Guidelines</i>.</p> <p>Implementation of <i>Standard Protection Measures for the Eastern Indigo Snake</i> during construction.</p> <p>Utilization of “sea turtle friendly” lighting on bridges, if deemed necessary.</p> <p>Placement of signs informing motorists of potential wildlife hazards, e.g. deer and bear crossings, if deemed necessary.</p> <p>Consider design of underpasses, large culverts, or other wildlife passage ways.</p> <p>FDOT will conduct a survey to determine the presence of nesting migratory birds in the vicinity of the proposed high-level bridge and, if present, to schedule the bridge construction after the nesting season.</p>
EFH	<p>Continue coordination with NMFS, Corps of Engineers, and USFWS.</p> <p>If Alternative 17 or 19 is selected as the preferred alternative, an additional seagrass survey will be conducted during the June-August prime growing season prior to construction.</p> <p>Measures to minimize impacts to EFH during construction that will be considered include: working within adjacent areas devoid of marine resources, avoiding the placement of equipment and debris in adjacent marine resource areas, incorporating turbidity controls, utilizing vessels that can operate in depths adequate to not scour or prop scar marine resources, ensuring adequate water depths for construction equipment during in-water work, monitoring marine resources during construction, and provisions for the demobilization and stabilization of the in-water construction site during potentially damaging tropical storms.</p> <p>Measures to minimize impacts to EFH during construction that will be considered include: working within adjacent areas devoid of marine resources, avoiding the placement of equipment and debris in adjacent marine resource areas, incorporating turbidity controls, utilizing vessels that can operate in depths adequate to not scour or prop scar marine resources, ensuring adequate water depths for construction equipment during in-water work, monitoring marine resources during construction, and provisions for the demobilization and stabilization of the in-water construction site during potentially damaging tropical storms.</p> <p>During construction, BMP and FDOT’s <i>Standard Specifications for Road and Bridge Construction</i> Section 104-3 will be employed to minimize impacts to EFH.</p>
Water Quality	<p>The proposed stormwater facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by the NFWFMD in Rule 40A-1, 40A-4, 62-4, 62-341, 62-346, the FDEP Rules 62-312 and 62-25 F.A.C. and the USEPA.</p> <p>Water quality effects resulting from erosion and sedimentation will be controlled in accordance with FDOT’s <i>Standard Specifications for Road and Bridge Construction Section 104</i> and through the use of BMP.</p>

Issue	Mitigation Commitments
Contamination Sites	<p>Sites having medium or high risk of contamination concerns will be re-evaluated prior to construction. If required, a Level 2 investigation will be performed to verify the type and extent of contamination present. Based on the findings of the updated file review and/or Level 2 investigation, the design engineers may be instructed to avoid the area(s) of concern or to include Special Provisions with the design plans. Actual cleanup will take place prior to construction, if feasible. Procedures specifying the contractor's responsibilities in regard to encountering previously unknown petroleum contaminated soil and/or groundwater are set forth in the FDOT <i>Standard Specifications for Road and Bridge Construction Section 120-1.2</i>.</p> <p>The contractor will be required to develop a response plan to avoid or remove contamination from contaminated sites with which the project could be involved, and for handling unexpected contamination that may be encountered during construction.</p>
Navigation	<p>Coordination with the USCG to verify vertical and horizontal bridge clearance requirements.</p> <p>Coordinate with the USCG to develop marine traffic management plans for bridge construction over navigable waterways and to provide public information on construction activities.</p>
Traffic Management	<p>Design and implement a traffic management plan to reduce congestion and delays, keep public informed of construction activities, and maintain access for emergency services, businesses and residences.</p> <p>Signs will be used to provide notice of road closures and other pertinent information to the traveling public.</p> <p>The local news media will be notified in advance of road closings and other construction-related activities, which could excessively inconvenience the community so that motorists, residents, and business persons can make other accommodations.</p>
Public Involvement	<p>Public involvement activities will continue throughout project development. During the plans production phase, a Community Awareness Plan will be developed and implemented to involve the public during the design process.</p> <p>Signs will be used to provide notice of road closures and other pertinent information to the traveling public.</p> <p>FDOT will continue to provide communication with schools, churches and other community service providers affected by the proposed project.</p> <p>The local news media will be notified in advance of road closings and other construction-related activities, which could excessively inconvenience the community so that motorists, residents, and business persons can make other accommodations.</p>

ES.17 What are the short-term impacts versus the long-term benefits?

Short-term impacts generally relate to construction effects on the environmental resources in the project corridor. All the build alternatives would have similar short-term impacts on air and water quality, wetlands, floodplains, and wildlife. These impacts are typically related to sedimentation in surface waters, the creation of dust through land clearing and movement of heavy equipment, noise and/or vibration impacts to fish and wildlife (**Section 4.3.21**).

Most construction impacts will be controlled with BMP and adherence to the FDOT's *Standard Specifications for Road and Bridge Construction*. Where specific concerns have been identified, such as the potential presence of manatees in the construction zone, special construction measures approved by the USFWS or the FFWCC will be implemented.

It should be noted that the proposed transportation improvements are based on State and/or local transportation and comprehensive plans which consider the need for present and future traffic requirements within the context of present and future land use development (**Section 1.5**). The long term benefits of the proposed project include enhancement of economic development opportunities through improved access to multi-modal transportation facilities; improved mobility within the regional transportation network; improved security of the Tyndall AFB by provision of a shorter detour route; and improved hurricane and emergency evacuation from southeast Bay County and coastal Gulf County;.

Therefore, it is concluded that the local short-term impacts and use of resources by the proposed action is consistent with the maintenance and enhancement of long-term productivity for the local area.

ES.18 What is the FDOT recommended alternative?

At this point in time, based on existing public input, early agency coordination, engineering information and environmental studies, which are currently available for public review, Alternative 17 is currently considered the preferred alternative for FDOT. However, FDOT will not make a final selection recommendation to FHWA on any alternative until all alternative impacts and comments on the Draft EIS and public input resulting from the public hearing have been fully evaluated. (**Section 2.8**).

ES.19 What are the next steps?

Following approval of the draft EIS and during the 45-day comment period, a public hearing will be held during which comments will be recorded for inclusion in the Final EIS. Following the public review period, the public hearing, and the comment period for this draft EIS, a final EIS will be initiated (**Section 5.6**).

The FHWA will issue a single Final EIS and Record of Decision document pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319.

“At this point in time, based on previous public input, early agency coordination, engineering information and environmental studies,

which are currently available for public review, Alternative 17 is currently considered the preferred alternative by FDOT. FHWA also considers Alternative 17 to be the preferred alternative. However, FHWA will make the final determination on a preferred alternative once alternative impacts and agency comments on the Draft EIS and public input resulting from the public hearing have been fully evaluated. Unless new information is brought forward through the public and agency comment period, FHWA intends to select Alternative 17 as the preferred alternative and will issue a combined Final EIS and Record of Decision (Final EIS/ROD) in accordance with Pub. L. 112-141, 126 Stat. 405, Section 1319(b). If FHWA selects another alternative based on public or agency input, FHWA will issue a separate Final EIS and ROAD in accordance with 23 CFR 771.

Upon acceptance of the Final EIS by FHWA and issuance of a Record of Decision those segments of the proposed project that have been funded may advance to final design.

ES.20 Where can I find a copy of the Draft EIS and other project documents?

This draft EIS and supporting technical documents (**Table ES-11**) is available for review and comment to interested persons, including state and federal agencies, citizens, and elected officials at the FDOT District 3 Office, 1074 Highway 90, Chipley, Florida, 32428, or online at <http://www.gulfcoastparkway.com/>.



FDOT District 3 Office

Table ES-11 Technical Documents Supporting the Draft EIS

Phase	Report
Corridor Analysis	Cultural Resources Corridor Probability Assessment
	Corridor Alternatives Evaluation Summary Report
Alternatives Development	Draft Preliminary Engineering Report
	Draft Location Hydraulic Report
	Pond Requirements Report
	Draft Traffic Report
Environmental Analysis	Draft Air Quality Memorandum for Gulf and Bay County
	Draft Conceptual Stage Relocation Plan
	Draft Contamination Screening Evaluation Report
	Draft Cultural Resources Survey Assessment
	Draft Endangered Species Biological Assessment
	Draft Indirect and Cumulative Effects Report
	Hurricane Evacuation Analysis for the Proposed Gulf Coast Parkway
	Draft Noise Analysis Report
	Draft Public Involvement Program Summary Report
	Draft Wetland Evaluation Report

SECTION 1 PURPOSE AND NEED FOR THE ACTION

The following sections discuss the purpose for this project and identify and discuss additional needs that the Gulf Coast Parkway is intended to address. For those areas in this section commented upon by the Environmental Technical Advisory Team (ETAT) after their review of the project in the Environmental Screening Tool (EST), the discussion (*shown in blue font*) begins with a summary of the comments and follows with a discussion of how or where the concerns have been addressed.

1.1 PROJECT DESCRIPTION

The Gulf Coast Parkway is a proposed new four-lane divided, controlled-access, arterial highway, approximately 30 miles in length. The proposed facility would provide an urban typical section with bicycle lane and sidewalks in urban areas and a rural typical section with a multi-use trail on one side of the highway. The proposed new road would also provide a new high-level bridge across the Gulf Intracoastal Waterway (ICWW) to connect US 98 in Gulf County, Florida with US 231 and US 98 (Tyndall Parkway) in Bay County, Florida.

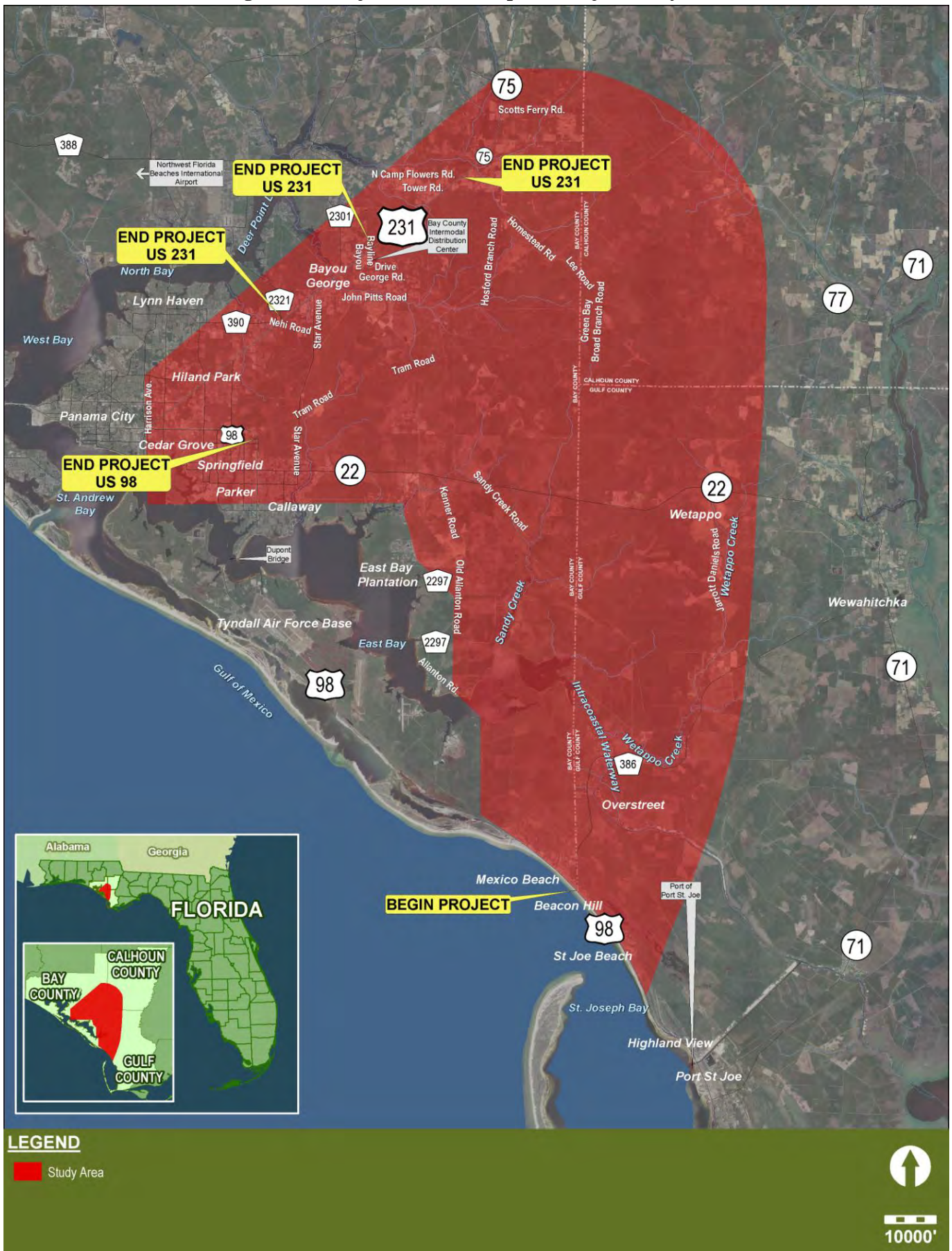
1.2 PURPOSE

The Florida Department of Transportation (FDOT), in cooperation with Federal Highway Administration (FHWA) is considering the addition of a new link in the transportation network of the central Panhandle of Florida. This new link, known as the Gulf Coast Parkway, would provide a connection between US 98 in Gulf County and US 231 and US 98 (Tyndall Parkway) in Bay County, Florida (**Figure 1-1**). The purpose for the Gulf Coast Parkway is to:

- Enhance economic development in Gulf County through provision of direct access to major transportation facilities (regional freight transportation routes and intermodal facilities); improved mobility; and direct access to tourist destinations in south Gulf County.
- Improve mobility within the regional transportation network by providing a new connection to existing and future transportation routes consistent with the Bay County Long Range Transportation Plan (LRTP) and the Gulf County Comprehensive Plan.
- Improve security of the Tyndall Air Force Base (AFB) by providing a shorter detour route.
- Improve hurricane evacuation for residents of coastal Gulf County by providing an additional evacuation route.

It should also be noted that the upgrading of existing facilities does not meet any of the needs listed above as it does not provide direct access to major transportation facilities, does not provide new connections consistent within the regional transportation network of the Bay County LRTP, does not provide a shorter detour route for Tyndall AFB and does not provide additional evacuation route options. However, in addition to the LRTP and the *Gulf County Comprehensive Plan*, the Build Alternatives would be consistent with Gulf County's *Strategic Plan*; the *Port of Port St. Joe Master Plan*; the Florida Alabama, Okaloosa-Walton, and Bay County Transportation Planning Organizations' (TPO) *Regional Freight Network Plan Highways of Commerce*, and the Northwest Florida Transportation Corridor Authority (NWFTCA) *2013 Master Plan*

Figure 1-1: Project Location Map and Project Study Area



1.3 BACKGROUND

Gulf County is one of eight counties comprising the Northwest Florida Rural Area of Critical Economic Concern, designated by Governor Bush in Executive Order 99-275 on November 8, 1999 and re-designated by Executive Order 04-250. Rural Areas of Critical Economic Concern are rural areas that have been adversely affected by an extraordinary economic event or natural disaster, or present a unique economic development opportunity of regional impact that would create more than 1,000 jobs over a five-year period. Local governments within areas having this designation receive priority under the State's Rural Economic Development Initiative (REDI), as established in Chapter 288.0656 F.S. In addition, the Governor, acting through REDI, may waive criteria, requirements, or similar provisions of any economic development incentive for these areas.

Gulf County, with a population of 15,863 in 2010, had built its economy around two industries that benefited from its abundant natural resources and coastal location: fishing and forestry. In the 1990's, the county's economy suffered two major setbacks. First was the passage of a constitutional amendment banning the use of a certain type of fishing net with a propensity for catching sea turtles which devastated the local fishing industry. This event was followed in 1998 by the closing of the Florida Coast Paper Mill which caused the local unemployment rate to soar to 21.6 percent.

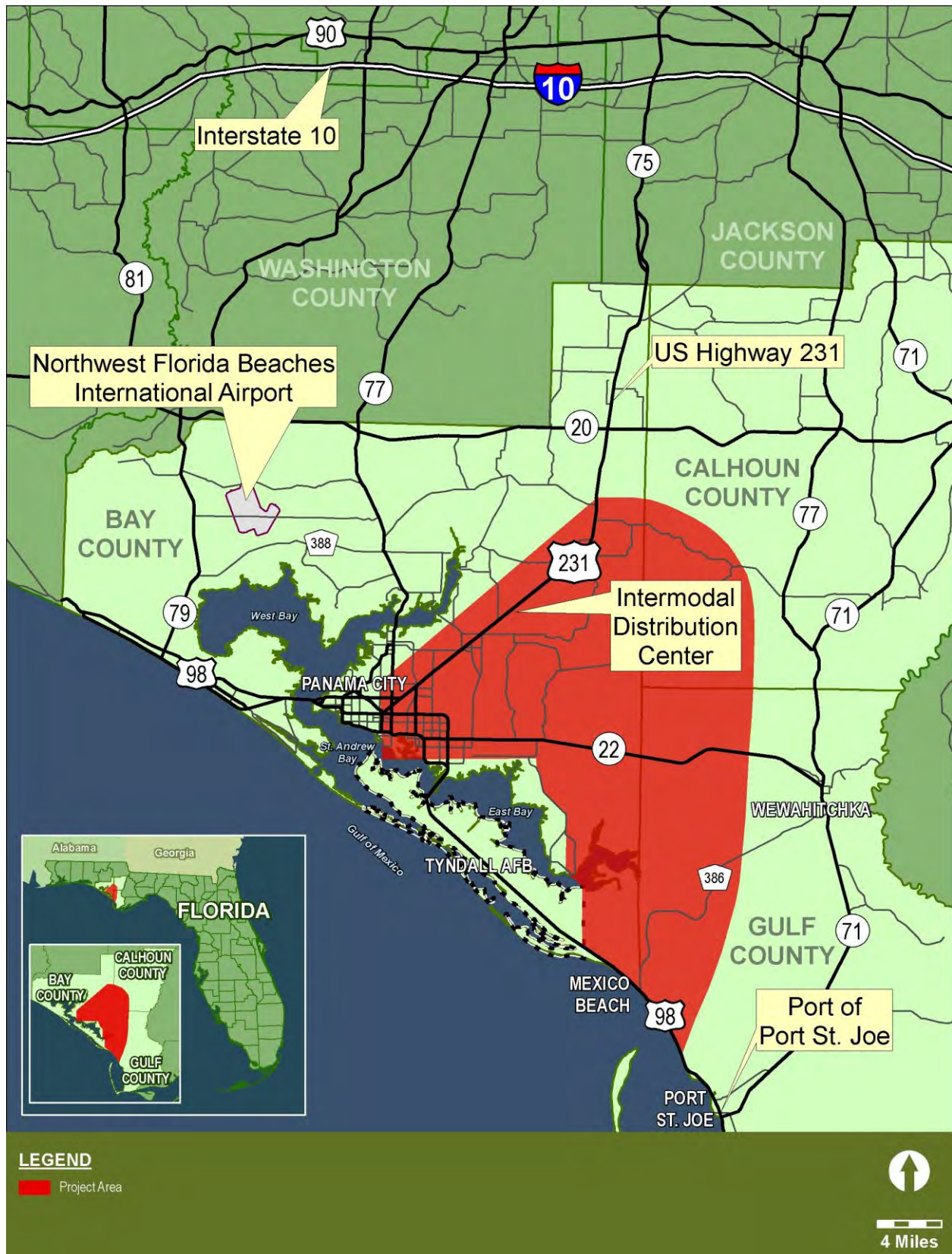
Opportunity Florida, a non-profit, regional economic development organization, was created to strengthen the business environment in the eight-county area designated as the Northwest Florida Rural Area of Critical Economic Concern by Florida's Governor on November 8, 1999. A Rural Area of Critical Economic Concern is community or region composed of rural communities, designated by the Governor of Florida, that has been adversely affected by an extraordinary economic event, severe or chronic distress, or a natural disaster or that presents a unique economic development opportunity of regional impact (Chapter 288.0656, Florida Statutes, dated 2012). This designation establishes the designated area as a priority for REDIs and allows the Governor to waive criteria for any economic development incentives¹.

It was Opportunity Florida that first promoted the development of a new transportation corridor as a measure to improve the economic competitiveness of Gulf County. The project also has been identified in the economic development section of Gulf County's Strategic Plan (2006-2011); in Policy 1.2.3 of Gulf County's Comprehensive Plan; and in Section 2.4.1 of the Port of Port St. Joe Master Plan (2013), which identifies the Gulf Coast Parkway as the Port's primary route for highway freight movements inland, providing the shortest route to I-10 and providing access to the Port of Panama City's intermodal distribution center. The Gulf Coast Parkway is also included in the NWFTCA revised Master Plan (June 2013).

It is expected that the proposed project would enhance economic development opportunities in Gulf County: by providing improved freight transport between the Port of Port St. Joe and US 231 to I-10, the Port of Port St. Joe and the Port of Panama City's Intermodal Distribution Center, and the Port of Port St. Joe and the Northwest Florida Beach International Airport (NWFBIA); and by attracting more tourists to the coastal areas of Gulf County and southeastern Bay County through a more direct route from US 231 to US 98 in Gulf County or through improved access between the NWFBIA and the coastal areas of Gulf County (see **Figure 1-2**). Other expected benefits would be improved hurricane evacuation; a shorter detour route for US 98; improved security of Tyndall AFB; and shorter commutes between Gulf County and the economic and shopping centers of the Panama City metropolitan area.

¹ Florida Department of Economic Opportunity, Rural Areas of Critical Economic Concern, <http://www.floridajobs.org/business-growth-and-partnerships/rural-and-economic-development-initiative/rural-areas-of-critical-economic-concern>, accessed 6/17/13.

Figure 1-2: Economic Generators/Destinations



1.4 NEED FOR THE PROJECT

The need for the project arose initially from the depressed economic conditions in Gulf County, Florida (discussed in **Section 3**). As the concept of improving the transportation network as an economic stimulus for the County was investigated, it became apparent that additional needs could be addressed by the proposed facility. These needs included the relief of congestion on existing roads within the network, improving the security of Tyndall AFB, improving travel times to work and shopping, and enhancing hurricane evacuation. In order to evaluate alternatives (discussed in **Section 2**) that would be proposed to satisfy these needs, objectives were developed for each need that would provide a measure of the success each alternative could be expected to achieve in addressing the project needs. The project needs and objectives are discussed below.

1.4.1 Enhance Gulf County's Economic Competitiveness

After ETAT review of the project in the EST, the United States Environmental Protection Agency (USEPA) responded with the following comment concerning economic stimuli (comment and response presented in Appendix I):

- *Population growth of 16-17% per annum for Gulf and Bay Counties reflects job seekers or retirees and not a need for economic stimuli.*

Population growth, discussed in Section 1.4.2 below, is not the sole reason for needed capacity and mobility improvements. The need for economic stimuli, one of the principal purposes of the project is based on population loss from the fishing and forestry industries as discussed in Section 1.2 above, as well as, the basis for increasing tourism and improving the viability of the Port of Port St. Joe.

The need for economic development within the study area, and especially in Gulf County, has been made evident by the inclusion of Gulf County in the Northwest Rural Area of Critical Economic Concern. The Florida Department of Economic Opportunity defines Rural Areas of Critical Economic Concern as “rural communities, or a region composed of rural communities that have been adversely affected by extraordinary economic events or natural disasters”². This designation, created by executive order of the Governor of Florida, establishes the so designated region as a priority assignment for REDIs agencies and allows the Governor to waive criteria for any economic development incentives. The Northwest Rural Area of Critical Economic Concern consists of Calhoun, Franklin, Gadsden, Gulf, Holmes, Jackson, Liberty, Wakulla and Washington counties and the City of Freeport in Walton County.

As a result of this classification, several organizations are in place to promote economic development activities in the northwest region of Florida. These include Opportunity Florida, Enterprise Florida, and Florida's Great Northwest, Inc. Each of these partnerships is focused on providing economic development initiatives and supporting activities that create economic advantages in the region; although, Opportunity Florida is more narrowly focused on those counties within the Northwest Florida Rural Area of Critical Economic Concern.

The Gulf Coast Parkway would also serve as a connection to Strategic Intermodal System (SIS) throughout the region, such as the Northwest Florida Beach International Airport (NWFBI), the Port of Panama City Intermodal Distribution Center, and the (future) Port of Port St. Joe. The Port of Port St. Joe Master Plan has identified the Gulf Coast Parkway as an important connector to I-10 and to mentioned intermodal facilities. In addition, the Gulf Coast Parkway has been identified by the

² <http://www.floridajobs.org/business-growth-and-partnerships/rural-and-economic-development-initiative/rural-areas-of-critical-economic-concern>, accessed 6/26/13.

NWFTCA in the 2013 update of its Master Plan and by the Florida – Alabama, Okaloosa – Walton and Bay County TPOs in their *Regional Freight Network Plan Highways of Commerce* as a future highway of commerce. The designation of the Gulf Coast Parkway as a future highway of commerce is based on its ability to provide a “higher speed, more efficient alternative to congested areas and moreover would divert through freight traffic away from older, highly urbanized areas not appropriate for heavy truck volumes.”³

1.4.1.1 Reduce Travel Times to Employment Centers in Bay County

The US Bureau of Labor Statistics reports that between 2000 and 2010 the unemployment rate in Bay and Gulf Counties increased by approximately five percent to ten percent. The Gulf Coast Parkway would reduce travel times to employment centers in Bay County providing greater job opportunities for those residents of Gulf County that have suffered from the increased unemployment rates in the county. These employment centers largely reside in the Central Business District located in the downtown area of Panama City, the largest municipality in the study area region.

1.4.1.2 Improve Access between Enterprise Zones and US 231

Among the efforts to improve economic conditions in Gulf County is the establishment of enterprise zones. An Enterprise Zone is an impoverished area in which businesses are exempt from certain taxes and are given other economic advantages as an inducement to locate there and employ residents. Within the project study area, enterprise zones have been designated along US 98 from south of the City of Port St. Joe to County Road (CR) 386, and along CR 386 from US 98 to the Overstreet area (see **Figure 3-15**). Improved access between these enterprise zones and US 231 provided by the Gulf Coast Parkway would encourage development in these areas and contribute to Gulf County’s economic growth initiatives. Additionally, growth in both the Enterprise Zones as well as the other areas where the Gulf Coast Parkway is proposed through Gulf County is consistent with the county’s future growth plans. The Gulf County Strategic Plan (2006-2011) identifies enhancing and improving the regional transportation system among its goals to expand and diversify its economy and employment opportunities. Among the strategies identified to achieve this goal is the strategy of supporting the Gulf Coast Parkway.

1.4.1.3 Provide a Direct Route from south Gulf County to US 231 and Freight Transfer Facilities in Bay County

After ETAT review of the project in the EST, the USEPA responded with the following comment concerning freight transfer facilities (comment and response presented in Appendix I):

- *The new intermodal distribution center eight miles north of Panama City will be an important factor for commerce. It is unclear why some alternatives do not terminate at this facility.*

Although the alternative corridors under consideration best meet Purpose and Need, not all alternatives meet this need equally. In consideration of other needs corridors which terminate in the vicinity of the facility are still able to serve it. This comment is addressed in the section below, as follows:

According to the *Regional Freight Management Plan Highways of Commerce*, the Port of Panama City’s Intermodal Transfer Facility is intended to function like an inland port⁴. As such, it is a major economic

³ West Florida Regional Planning Council, URS, and DRMP, *Regional Freight Network Plan Highways of Commerce*, 2010, p. 5-6.

⁴ West Florida Regional Planning Council, URS, and DRMP, *Regional Freight Network Plan Highways of Commerce*, 2010, p. 5-6.

center. The Gulf Coast Parkway would provide a direct connection from south Gulf County to US 231 and the freight transfer facilities at the Port of Panama City Intermodal Distribution Center. This improved connection would be especially beneficial to the Port of Port St. Joe. Consistent with Chapter 311 Florida Statutes (Florida Seaport Transportation and Economic Development Program), the Port of Port St. Joe is in the process of reactivating waterborne commerce at the port to bring in shippers, manufacturers, and support industries that will create well-paying jobs so badly needed by the community and the region. Among the objectives and policies of the Port St. Joe Port Master Plan 2013 is Objective 2.3 Highway Access and Connectivity. In this objective the Port Authority shall collaborate with local and state agencies to develop the intermodal connections needed for the efficient movement of goods to and from its facilities. Policy 2.3.2 Off-Port Highway Improvements includes working with the FDOT to gain funding for any needed improvements to roads, including the Gulf Coast Parkway, over which Port truck traffic must travel. The Port St. Joe Port Authority and the Gulf County Board of County Commissioners have further indicated the critical role the Gulf Coast Parkway plays in the Port's reactivation (see Section 1.5).

The Gulf Coast Parkway would provide a symbiotic benefit to both the Port of Panama City's Intermodal Distribution Center and the Port of Port St. Joe. The improved linkage provided by the Gulf Coast Parkway to the Intermodal Distribution Center would expand the variety of economic development opportunities that could occur in Gulf County and improve access to and from the Port of Port St. Joe. The improved access between the Port of Port St. Joe and US 231 to I-10 and the Port of Panama City Intermodal Distribution Center would make the Port of Port St. Joe more attractive to potential users of the port facilities who, without the Gulf Coast Parkway, would be required to utilize the two-lane SR 71 to reach I-10. To access the Port of Panama City Intermodal Distribution Center, freight haulers would be required to travel either SR 71 to Wewahitchka, to access the two-lane SR 22 to reach the two-lane rural CR 2315 (Star Avenue) in Callaway to travel north to US 231 and on to the Intermodal Distribution Center; or alternately, travel the two-lane US 98 (Tyndall Parkway) through the coastal communities in Gulf County and southeastern Bay County, through the Tyndall AFB, and continuing on the congested four-lane segment of US 98 (Tyndall Parkway) through the communities of Parker, Springfield and Callaway to reach northbound urban streets connecting to US 231. The more variety in the goods distributed through the Port of Port St. Joe, the greater the potential usage of the Intermodal Distribution Center.

1.4.1.4 Provide a More Direct Route from south Gulf County to the Northwest Florida Beaches International Airport

The Northwest Florida Beaches International Airport (NWFBI) is a part of Florida's SIS. New roadways connecting to SIS facilities provide enhanced access to economic markets, thereby supporting economic competitiveness. Gulf County would benefit from the linkage provided by the Gulf Coast Parkway to the airport and other intermodal freight facilities because it would increase the access to goods being shipped via these locations. In addition, the Port of Port St. Joe would become more attractive to potential users through improved connections to I-10 and to intermodal facilities via the Gulf Coast Parkway. The improved access would likely increase the Port's opportunity to expand its facilities to attract clients servicing global markets.

1.4.1.5 Provide a More Direct Route for Tourists Traveling US 231 to south Gulf County

Gulf County must compete with Bay County for tourist dollars. Bay County has an estimated seven million people visit their beaches annually. While Gulf County does not experience the same level of

tourism that Bay County has, its “economy is so dependent on their tourist population any reduction in the tourist population would have negative impacts to the overall economic health of the County”⁵.

Access to Gulf County beaches is mostly by US 231 to US 98 (Tyndall Parkway); then through the communities of Springfield, Callaway, and Parker; across the ICWW; and finally through the Tyndall AFB Reservation to the desired destination. An alternate but little used route is the two-lane State Road (SR) 71 or SR 71/CR 386, depending on the destination. A new, more direct route bypassing the congested sections of US 231 and US 98 (Tyndall Parkway) and allowing for higher travel speeds would make the Gulf County beaches a more desirable destination, especially for tourists utilizing US 231.

The Gulf Coast Parkway will also provide a direct route to south Gulf County recreational resources along the coast. Please refer to **Figure 1-3** for parks and recreation sites located within the study area and in south Gulf County. Additionally, the improved connection between the NWFBI and Gulf County would also make the coastal communities more accessible and appealing for tourists.

1.4.2 Improve Mobility and Connectivity within the Regional Transportation Network

The *Regional Freight Network Plan Highways of Commerce* notes that trucks accounted for 93 percent of the region’s freight movements⁶. At the same time the report notes that Bay County’s freight issues include problems or needs such as chronic delays by congestion (especially seasonal traffic), capacity constraints, chokepoints, impeding heavy vehicles, better access to specific sites, and/or safety problems, including those due to the incompatibility of truck traffic with the surrounding area⁷.

The proposed project would provide a new link in the regional transportation network. Gulf Coast Parkway would connect with other regional transportation facilities, like Tyndall Parkway, and relieve congested segments of existing roadways, like US 98. Gulf Coast Parkway would also improve access within the region by providing connections to other regional facilities such as the Port of Panama City Intermodal Distribution Center, the NWFBI, The Eastern Shipyard, and the Port of Port St. Joe. It would also route through freight traffic away from incompatible land uses in the congested urban area

In addition, the proposed project includes a provision for a shared use path along the rural typical section and a bike lane and sidewalks along the urban typical section. These facilities would provide a another mobility option that is not currently present and is consistent with state policy (Section 335.065 F.S.) requiring the provision of bicycle and pedestrian facilities in conjunction with construction, reconstruction, or other change of any state transportation facility.

1.4.2.1 Reduce Congestion on the Tyndall Parkway (US 98)

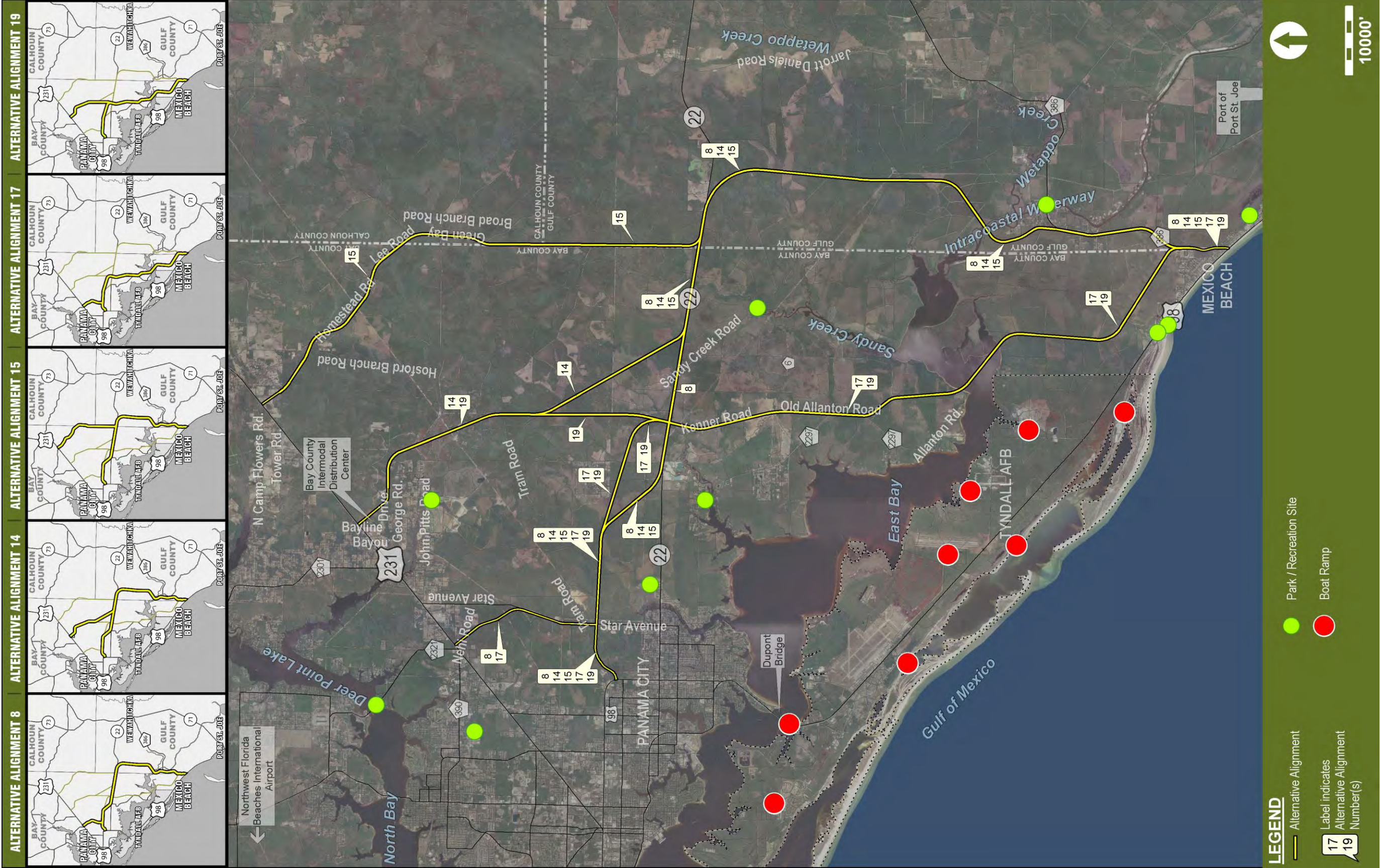
The US 98 (Tyndall Parkway) north of the Tyndall AFB Reservation, currently operates at Level of Service (LOS) F, LOS C is the established accepted standard for this roadway. The addition of the Gulf Coast Parkway to the regional transportation network will benefit US 98 by providing an alternative roadway to relieve traffic congestion along this roadway and therefore improving the LOS at which the roadway currently operates. The Gulf Coast Parkway will also extend the time before improvements on the existing network are needed by transferring some of the through traffic to a new road with added capacity, providing a more balanced highway network.

⁵ Gulf County, *Evaluation and Appraisal Report*, 2007, p. 2-3.

⁶ West Florida Regional Planning Council, URS, and DRMP, *Regional Freight Network Plan Highways of Commerce*, 2010, p. 3-14.

⁷ West Florida Regional Planning Council, URS, and DRMP, *Regional Freight Network Plan Highways of Commerce*, 2010, p. 2-7.

Figure 1-3: Park and Recreation Sites within the Study Area



1.4.2.2 Provide Future Traffic Capacity between South Gulf County and Bay County

After ETAT review of the project in EST, the United States Fish and Wildlife Service (USFWS) responded with the following comment concerning population growth and traffic capacity (comment and response presented in Appendix I):

- *High population growth rates were given as support for a new roadway; however, population gains between 2005 and 2006 were below state average.*

Census data were not used to generate traffic projections. Traffic projections were derived utilizing a combination of regression analysis and the Bay County TPO traffic forecasting model. This comment is addressed in the section below and in Section 2 of this report, as follows:

Prior to 1990, Gulf County experienced slow, but steady population growth at a rate of around 6 percent. However, between the 1990 and 2000 census, Gulf County's population increased by 16.1 percent. The US Census Bureau shows that between 2000 and 2010 the Gulf County population increased by 15.9 percent. However, the Gulf County *Evaluation and Appraisal Report*, which based its calculation on the *Bureau of Economic Research* estimates, notes that the County experienced only a moderate population increase from 2001 to 2005 and that most of this increase could be attributed to expansion of the prison system.

In order to account for the effects of the 2008 recession, the Bureau of Business and Economic Research medium population projections, which are updated annually, were used to estimate the future population in the study area. The medium population projections were utilized for Gulf County because those are the estimates utilized in the *Gulf County Evaluation and Appraisal Report*, and because of the efforts to re-establish the county's industrial base, which if successful would likely increase the current population growth trend. Those studies addressing provisions for expanding Gulf County's industrial base include the *Port of Port St. Joe Master Plan* and the *Regional Freight Network Plan Highways of Commerce*.

Florida's growth management policy encourages local governments to be pro-active in planning for future growth and provide the necessary infrastructure needed to support the projected level of growth. In order to adequately prepare for the anticipated growth and development along the Gulf Coast in Gulf County, improved access is needed between US 98 in Gulf County and US 231 in Bay County. The Gulf Coast Parkway would provide that access.

While growth has slowed in the recent recession, the socioeconomic data used in the Northwest Florida Regional Planning Model (NWFRPM) shows that population and employment growth has slowed only to the point of moving the data out five years. What this means is that the 2030 population and employment numbers are now the 2035 numbers and as such, the analysis for the project and the projected growth is still considered to be correct and on track for the horizon year. The conceptual design of the Build Alternatives would provide the traffic capacity needed to accommodate the projected population increases and freight traffic within the study period.

1.4.2.3 Provide a More Efficient US 98 Detour Route

There are a variety of scenarios that would require US 98 to be closed to through traffic. Among those is the need to close US 98 through Tyndall AFB for security reasons. These closures could be short or long – term depending on the situation (as was illustrated in July 2013 with the 24-hour closure of US 98 through Tyndall AFB as a result of a drone crash). In addition, if the DuPont Bridge should be damaged or in need of repair, its closure could be lengthy. The existing 50-mile long detour is particularly onerous

if made daily over a period of months. The Gulf Coast Parkway would provide a more efficient detour route, reducing the detour distance by potentially 30 miles.

1.4.2.4 Maintain Continuity with Planned Future Transportation Projects

The proposed Gulf Coast Parkway project has been developed to be consistent with existing transportation plans and related transportation improvement projects. Since the project crosses planning jurisdiction boundaries, portions of the projects may only be included in some plans. Also, due to the project's length it is expected that the improvements would occur in phases. Therefore, in some transportation plans, only certain segments have been identified within the planning period of the specific plan. Other segments may occur later than the planning period, or may occur in another planning jurisdiction's plan.

Planned Roadway Improvement Projects: The following *LRTP Needs Projects* were considered during the traffic analysis for the Gulf Coast Parkway.

- SR 22 widening to four lanes from Tyndall Parkway to Gulf Coast Parkway
- SR 22 (East 3rd St.) widening to four lanes from SR 30 (US 98) to CR 2327 (Transmitter Road)
- SR 22 (Wewa Highway) widening to four lanes from CR 2327 (Transmitter Road) to SR 30A (Tyndall Parkway)
- SR 30A (US 98) widening to six lanes from SR 22 (Wewa Highway) to CR 2327 (Transmitter Road)
- SR 389 (East Avenue) widening to four lanes from SR 75 (US 231) to CR 28 (11th St.) widening to four lanes.
- CR 390 widening to four lanes from SR 77 (Ohio Avenue) to SR 75 (US 231)
- SR 75 (US 231) widening to six lanes from CR 2312 (East Baldwin Road) to CR 388
- SR 75 (US 231) widening to six lanes from CR 388 to Jackson County line
- CR 2327 (Transmitter Road) widening to four lanes from CR 390 to SR 22 (Wewa Highway)
- CR 2301 widening to four lanes from SR 75 (US 231) to CR 388.
- Gulf Coast Parkway Extension new four lane road from SR 75 (US 231) in Bay County to SR 30A (US 98) in Walton County.

It should be noted that the proposed project was developed to work in concert with these projects not to supplant them. Further, implementation of these projects without the Gulf Coast Parkway would not provide the all of needed capacity improvements to the transportation network.

1.4.3 Improve Security of the Tyndall Air Force Base

After ETAT review of the project in the EST, the USEPA responded with the following comment concerning security closures of US 98 through Tyndall AFB (comment and response presented in Appendix I):

- *Capacity additions through Tyndall have been eliminated as a viable alternative by FDOT. The Purpose and Need does not include documentation of past closures or projections of future closures.*

Widening of US 98 through Tyndall AFB was determined to be not viable due to impacts through Mexico Beach. In addition, widening through Tyndall AFB would require the acquisition of federal lands that are managed for wildlife conservation and habitat restoration. Closures of US 98 through Tyndall are sporadic, and information on future closures is not available. Correspondence from Tyndall AFB regarding the ability to close US 98 is included in the appendices. This comment is addressed in the section below, as follows:

US 98 is a major east-west roadway serving the Gulf Coast region. A large segment of US 98, between the City of Port St. Joe and Panama City, provides the only through route within this region and lies partly within the Tyndall AFB Reservation. When US 98 through Tyndall AFB is closed for any reason vehicles must travel a detour route approximately 50 miles long to reach their destination. The closing of US 98 is periodically necessary for security purposes at Tyndall AFB. Any time that a training drone is launched, US 98 is closed within one mile of the runway. Tyndall AFB will not release data on the frequency or timing of these launches for security reasons. There have also been past instances where accidents involving drone or plane crashes have required the closure of portions of US 98. Drone crashes occurred in November 1996 and again in February 2002, there was a plane crash at Tyndall AFB in March 2003. An alternate route to US 98 in the Callaway/Springfield area would benefit both the Tyndall AFB and the traveling public who would not have to travel an approximately 50 mile detour to reach their destination.

Tyndall AFB submitted a letter indicating that the project would benefit security at the base by providing a suitable alternative route for the public. Tyndall AFB indicated this would significantly upgrade its force protection posture and the safety and security of its personnel and resources, as well as enhance its ability to execute its mission in heightened threat conditions (**Appendix C**). Therefore, the proposed project would benefit national security by providing a shorter detour route and allowing closure of US 98.

1.4.4 Improve Hurricane Evacuation Capability

After ETAT review of the project in the EST, the USEPA and the United States Army Corps of Engineers (USACE) responded with the following comments concerning hurricane evacuation capability (comments and responses presented in Appendix I):

- *USEPA – Unclear whether this roadway is a reasonable component to hurricane evacuation in light of other roadways, with capacity additions, being able to move more evacuees away from the coast.*
- *USACE – Corps does not agree that roadway will aid in evacuation of Panama City. No evacuation travel times are presented which support the roadway's benefit. Recommend eliminating this justification.*

Capacity additions (widening) of other roadways would not meet other criteria in the Purpose and Need, Evacuation travel times are provided in the discussion that follows.

Recent hurricane seasons have demonstrated the need for improved evacuation (and recovery) routes and additional route options to accommodate area residents and visitors, particularly in Gulf County where there are limited evacuation routes. A hurricane evacuation analysis was conducted for the proposed project to determine whether the road would provide evacuation benefits to the residents and tourists in the coastal areas of Gulf County and southeast Bay County (see *Hurricane Evacuation Analysis for the*

Proposed Gulf Coast Parkway, August 2006, for details on the study). The analysis found that the proposed project would provide evacuation benefits and, therefore, it was included in the purpose and need for the project.

Currently, northbound evacuation of Bay County is by US 231, SR 77, and SR 79. Those residents of southeast Bay County would most likely utilize US 231 or SR 77, depending on the direction the hurricane is expected to take. The only northbound routes in Gulf County are CR 386 and SR 71, both two-lane roads. Those evacuees using CR 386 must travel to SR 71 then to Wewahitchka. From there, they either remain on the two-lane SR 71 or take SR 22 west to US 231.

For evacuees in southeastern Bay County and coastal Gulf County to reach any of these northbound evacuation routes, they must travel US 98. US 98 is not an acceptable hurricane evacuation route, as it is within the surge zone for a Category 3 or greater hurricane through most of the corridor. Further, the east-west orientation of US 98 does not promote efficient evacuation of coastal residents needing to travel north to seek safe shelter. Evacuation on US 98 to the west requires residents to travel through Tyndall AFB, across the high-level DuPont Bridge, and through the communities of Parker, Springfield, Callaway, and Panama City to reach US 231, a distance of 27.8 miles from CR 386. Evacuation on US 98 to the east requires residents to travel south, across a high-level bridge and through the community of Port St. Joe to reach SR 71, a distance of 9.5 miles from CR 386. Although this distance is shorter and there is less traffic, SR 71 is only a two-lane road that experiences a severe bottle-neck in Wewahitchka. Evacuation up two-lane CR 386, as described above, requires traveling across the high-level Overstreet Bridge, to SR 71 and on SR 71 through the bottleneck in Wewahitchka. The route evacuees choose will be based on the location they are evacuating as well as the direction the storm is expected to take.

The hurricane evacuation study, which was based on the *Transportation Analysis Update of the Apalachee and Northwest Florida Hurricane Evacuation Restudies* prepared for the USACE and subsequent updated model work prepared for Bay County, found that the Gulf Coast Parkway would reduce evacuation times on SR 71 and US 231 (under contraflow conditions), Table 1-1 summarizes the results of the study.

Table 1-1 Worst Case Hurricane Clearance Times (in hours)

Evacuation Bottlenecks	Existing Road Network (2006)	Year 2032 No Build Alternative	Year 2032 with Planned Improvements & Gulf Coast Parkway	Year 2032 with Gulf Coast Parkway and US 231 Contraflow
US 231 NB at SR 20	25	32	36	28
SR 71 through Wewahitchka	12	14	10	10

Note: Worst case is a Category 4-5 hurricane during high tourist occupancy

Although clearance times for the two northbound lanes of US 231 would increase with the addition of the Gulf Coast Parkway, the clearance times would decrease if US 231 were operated under contraflow conditions (i.e. by temporarily using 3 or 4 travel lanes for northbound traffic). Evacuation times on a contraflow facility, with traffic from the Gulf Coast Parkway, would decrease to four hours less than evacuation times under the No Build Alternative (and eight hours less than would occur with only two evacuation lanes on US 231). It should be noted that LOS volumes on all evacuation routes decrease as evacuation progresses and then recover near the end of the process.

With the considerable percentage of the study area population living along the coast, the Gulf Coast Parkway would be of particular benefit in evacuation, since it provides residents with a third, more direct

alternative to reach either I-10 or to continue northbound. Although it also requires a high level bridge that would be subject to closure when sustained winds reach 40 mph, this bridge would not be directly along the coast (perpendicular to the approaching storm) and the approach roadway would be built to maintain the road surface above the storm surge. Therefore, the likelihood the facility will be operational after a direct hit by a hurricane is improved, enhancing post-storm rescue and recovery efforts.

1.5 FUNDING AND CONSISTENCY WITH TRANSPORTATION PLANS

After ETAT review of the project in the EST, the FHWA responded with the following comment concerning TOPIC (comment and response presented in Appendix I):

- *Cost and funding source are not identified. A cost estimate for each alternative should be provided in the Programming Screen Summary Report.*

The Project Development and Environment (PD&E) Study is funded with \$4.35 million for the completion of an Environmental Impact Statement (EIS). In addition, \$25 million in federal funds has been programmed for partial design and right-of-way acquisition upon completion of the PD&E Study. The Programming Screen Summary Report includes a cost estimate for each alternative.

Since 2007, when this comment was initially addressed, planning of the project segments has been revised. The \$25 million in federal funds are to be utilized to complete design, acquire right-of-way, and construct Segment 8 [from Star Avenue traveling west 0.7 mile on new alignment to Tram Road, then along Tram Road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of the existing Tram Road/US 98 (Tyndall Parkway) intersection].

The proposed project is consistent with the Bay County TPO 2035 LRTP (*Direction 2035 Shaping Our Future*), adopted July 27, 2011. Two segments of the project are identified for design in the Cost Feasible Plan (adopted July 27, 2011) and the Cost Feasible Plan Amendment Report (adopted January 25, 2012): Gulf Coast Parkway from CR 2315 Star Avenue to SR 30A (US 98) (Segment 8) and Gulf Coast Parkway from SR 22 Wewa Highway to CR 2315 Star Avenue (Segment 7). However, only the segment from CR 2315 (Star Avenue) to SR 30A (US 98) (Tyndall Parkway) is being advanced to design, right-of-way acquisition, and construction using Federal earmark funds. All other segments and development phases, identified in the LRTP Needs Assessment Report (adopted December 15, 2010) and the LRTP Needs Assessment Amendment Report (adopted September 28, 2011), are outside of the range of the current LRTP Cost Feasible Plan. FDOT is working with the Bay County TPO to revise the LRTP Cost Feasible Plan and Needs Plan to be consistent with recent changes in the project segments. Supporting documentation for the project's planning consistency is provided in **Appendix O**. The development and funding schedule for the project segments and phases for the recommended alternative are shown in **Table 1-2**.

Table 1-2: Gulf Coast Parkway Recommended Alternative Construction Segments and Development Phases*

Work Program Number	Description	Design		Right of Way		Construction	
		Funding Period	Cost**	Funding Period	Cost	Funding Period	Cost
410981-8	From CR 2315 (Star Avenue) to SR 30A (US 98)	2014	\$5.4	2015	\$18.0	2016	\$36.2
410981-7	From SR 22 westward on new alignment north of and parallel to SR 22 to new intersection with Star Avenue 1,600 feet south of Tram Road	2036	\$8.0	2038	\$1.8	2040	\$53.1
410981-9	From intersection of Gulf Coast Parkway with Star Avenue, north along Star Avenue 2.1 miles, then northwest on new alignment for 2.36 miles to intersect US 231. Includes a flyover over Bay Line Railroad and US 231 and new intersection configuration with US 231, CR 390, and SR 2321.	2040	\$7.6	2043	\$1.8	2045	\$50.9
410981-6	From northern end of approach to proposed bridge over East Bay north on new alignment until it reaches CR 2297. Travels north over existing CR 2297 until it diverges into Old Allanton Road/Kenner Road and then continues north over existing Old Allanton/Kenner Road until it intersects with SR 22.	Beyond 2050	\$10.1	Beyond 2050	\$11.9	Beyond 2050	\$67.5
410981-5	From southern approach of proposed bridge over East Bay to northern approach of bridge.	Beyond 2050	\$23.8	Beyond 2050	\$4.0	Beyond 2050	\$158.6
410981-4	From intersection of CR 386 with proposed Gulf to Bay Highway west and then northwest along new alignment until the southern approach of proposed bridge over East Bay.	Beyond 2050	\$7.5	Beyond 2050	\$8.8	Beyond 2050	\$50.0
410981-3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway	Beyond 2050	\$0.9	Beyond 2050	\$14.7	Beyond 2050	\$5.9

*Segment 410981-1 was the original Opportunity Florida PD&E Study and Segment 410981-2 is the current PD&E Study.

**in million dollars

Planning documents that were reviewed for project consistency include:

Bay County LRTP: The Gulf Coast Parkway, Segment 8 [from US 98 (Tyndall Parkway) to Star Avenue] and Segment 7 [from SR 22 to Star Avenue] are identified in the Cost Feasible Plan of the Bay County TPO 2035 LRTP⁹. All other phases are shown in the LRTP Needs Plan. Currently the phases shown in the Needs Plan do not match the segments shown in Table 1-2; however, FDOT is coordinating with the Bay County TPO to revise the LRTP Cost Feasible Plan and Needs Plan to be consistent with the segments and phases shown in Table 1-2. Segment 8 is the only segment with funds programmed (high priority project funds from a federal earmark) for the design, right-of-way acquisition, and construction phases in the Cost Feasible Plan. All other phases are beyond the 20-year window of the Cost Feasible Plan.

Gulf County is not part of a TPO or Metropolitan Planning Organization (MPO) but is a partner in the Bay, Gulf, Holmes, and Washington Regional Transportation Partnership. The Gulf Coast Parkway is identified in this Partnership's transportation plan document, adopted April 3, 2006, as a "Regional Transportation Network Conceptual". Further the document states in its Regional Network Criteria that regionally significant transportation facilities exhibit one of more of the following characteristics, all of which are part of the Gulf Coast Parkway's purpose and need:

- Serves the goals of the SIS.
- Facility or service provides for interstate travel and commerce and is important to the economic vitality (tourism) of the region.
- Roadway facility is functionally classified as an arterial roadway or collector.
- Facility serves as a hurricane evacuation or emergency support route.

Transportation Improvement Program (TIP): FDOT is working with the Bay County TPO to modify the recently adopted 2014-2018 Five-Year Work Program to include the design, right-of-way acquisition and construction phases for Segment 8 [from US 98 (Tyndall Parkway) to Star Avenue)], for which federal funding is available. The STIP will be modified to be consistent with the TIP. Preliminary engineering will be identified as occurring in 2014, right-of-way acquisition as occurring in 2015, and construction as occurring in 2016.

State Transportation Improvement Program: Since Gulf County is not within a TPO, transportation improvements within the County are programmed by the FDOT. Because the Gulf County improvements are not scheduled within the 2014-2018 Work Program, they will not show up in the work program until the appropriate five-year program. Those improvements within Bay County are programmed by the Bay County TPO. FDOT is working with TPO to add the preliminary engineering, right-of-way acquisition, and construction phases for Segment 8, to the TIP before adoption of the 2014-2018 STIP in October 2013.

Regional Freight Management Plan – Highways of Commerce: The Regional Freight Management Plan identifies the Gulf Coast Parkway as a future Highway of Commerce because it “would provide higher speed, more efficient alternatives to congested areas, and moreover would divert through traffic away from older, highly urbanized areas not appropriate for heavy truck volumes.”

Northwest Florida Transportation Corridor Authority Master Plan (2013): The NWFTCA was created by the Florida legislature to improve mobility in Northwest Florida to promote economic development, enhance traveler safety, improve hurricane evacuation and alleviate traffic congestion. The NWFTCA performed qualitative and quantitative assessment of the projects, including the Gulf Coast Parkway, identified in their Master Plan. Qualitatively the Gulf Coast Parkway received an overall score of 4.35 out of 5.0. Of the 36 projects in the report, four were not evaluated and seventeen ranked the same or lower qualitatively. The quantitative assessment evaluated market and non-market benefits of the projects, including conducting a cost benefit analysis. The Gulf Coast Parkway had a benefit/cost ratio of 2.13, justifying the cost of the project.

Gulf County Comprehensive Plan: The Traffic Element of the *Gulf County Comprehensive Plan*¹² (adopted December 2009, revised 2011) has as Goal 1 maintain, improve and expand a transportation circulation system which provides energy efficiency, reduction of greenhouse gases, safe and efficient movement of goods and people within and through Gulf County. Objective 1.2 requires that adopted levels of service be maintained on all roadways as new growth occurs. The proposed project would provide additional traffic capacity; thereby meeting the requirement of maintaining levels of service. Policy 1.2.3 specifically addresses the Gulf Coast Parkway by stating “...Gulf County encourages the creation of the Gulf Coast Parkway to improve hurricane evacuation, economic growth and reduce impacts to Tyndall AFB”. It is expected that once a preferred alternative is identified, the project’s alignment will be added to the traffic circulation map of the comprehensive plan.

Bay County Comprehensive Plan: The Transportation element states as its vision that the County “Will develop safe, efficient and effective transportation infrastructure that promotes economic development and enhances the environment, quality of life, and aesthetics”. The Objective 4.8 of the Comprehensive Plan also requires the County to maintain LOS standards. The Gulf Coast Parkway is consistent with the

County's vision and policies in that it would promote economic development and would carry some of the traffic on currently congested road segments (i.e. US 98/Tyndall Parkway and US 231). It is expected that once a preferred alternative is identified, the project's alignment will be added to the traffic circulation map of the comprehensive plan.

Resolutions: Resolutions supporting the project during the concept master plan and feasibility phase were received from the Callaway City Commission (Resolution #03-04, dated February 17, 2003), the City of Panama City (Resolution #022503-1, dated February 25, 2003), the Springfield City Commission (Resolution #03-02, dated February 24, 2003), and the Panama City Urbanized Area MPO (Resolution #03-06, dated April 28, 2003), which recommended Corridors A (Alternative 7) or B (Alternatives 9 or 12).

Resolutions and letters supporting the project during the PD&E and alternative alignments analysis phase were received from the Gulf County Commission (November 3, 2009), the Bay County Chamber of Commerce (December 17, 2009), the Bay County Commission (November 18, 2009), the Bay County TPO (resolution BAY 09-47, dated November 19, 2009), the City of Callaway (resolution 09-23, dated November 10, 2009), the City of Springfield (resolution 09-10, dated December 7, 2009), Port St. Joe Port Authority (October 24, 2012), the City of Callaway (November 27, 2012), and Gulf County Board of County Commissioners (February 12, 2013). These resolutions and letters of support are discussed in **Section 5** of this report and a copy can be found in **Appendix C. Table 1-3** summarizes the reasons for each agency's position supporting the project.

Table 1-3: Resolutions and Letters Supporting the Gulf Coast Parkway

Organization	Document	Agency Position
Department of the Air Force	9/9/02 Letter	Since the events of 11 September, we are constantly reminded of the vulnerability that results from a US highway through the middle of a military installation. The potential of another roadway that could provide a suitable alternative for the public would provide a beneficial security option by allowing the base to close off the existing portion of US 98 when necessary, which would significantly upgrade our force protection posture and the safety and security of Tyndall personnel and resources, as well as enhance our ability to execute missions in heightened threat conditions. The pending F-22 mission underscores the importance of upgrading our force protection posture. Residential or business development immediately along a bypass on the north side of East Bay would not be in conflict with current Tyndall operations.
Panama City MPO (now Bay County TPO)	4/28/03 Letter & Resolution 03-06	MPO recommends (Corridor) Alternatives A or B be selected as the Preferred Alternative and supports appropriation of additional funding that will not take away from funding of the MPO's current Major Project Priorities. Alternative A or B are consistent with the MPO's LRTP for a Tyndall AFB Bypass.
City of Springfield	Resolution 09-10	The City of Springfield request that the FDOT and FHWA select Corridor 17 as it is favored by environmental agencies; reduces traffic on US 98 and increases security to Tyndall AFB; provides the shortest travel times employment and industry in Panama City (including the shipyard in the Allanton Pensinsula, the intermodal distribution center, the new airport, and for tourists); is best for enhancement of commercial and industrial development; and the Allanton Peninsula has already been developed by an airpark, shipbuilding industry, the Sandy Creek community and central water and sewer.

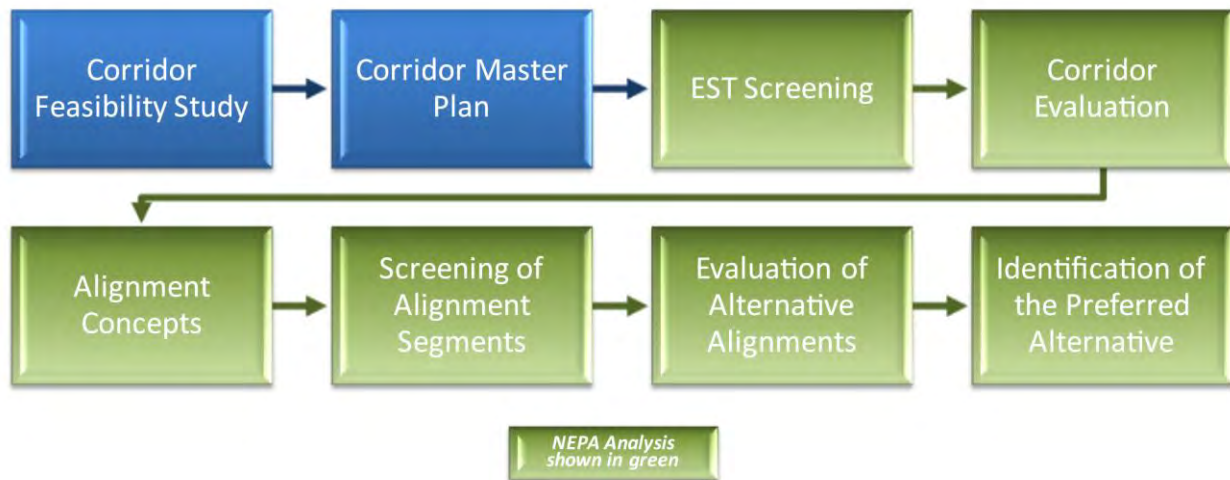
Organization	Document	Agency Position
City of Callaway	Resolution 09-23	The City of Callaway requests that the FDOT and FHWA select Corridor 17 as it is favored by environmental agencies; reduces traffic on US 98 and increases security to Tyndall AFB; provides the shortest travel times employment and industry in Panama City (including the shipyard in the Allanton Pensinsula, the intermodal distribution center, the new airport, and for tourists);. is best for enhancement of commercial and industrial development; and the Allanton Peninsula has already been developed by an airport, shipbuilding industry, the Sandy Creek community and central water and sewer.
Bay County TPO	Resolution 09-47	The Bay County TPO support Alternative Alignment 17 as the preferred alternative because it is consistent with the LRTP which includes the concept for the Gulf Coast Parkway from US 98 in the vicinity of Mexico Beach to US 231, with a future extension to US 98 in Walton County.
Bay County Chamber of Commerce	Resolution 12/17/09 and Letter dated 1/8/10	The Bay County Chamber of Commerce endorses the selection of Alignment 17 because it was endorsed by the Bay County Board of County Commissioners and the TPO and because it would enhance economic development in Bay and Gulf Counties, provide mobility within the regional transportation network, enhance security of Tyndall AFB, provides an additional evacuation route; and is least expensive and is favored by the environmental agencies and provides the shortest route to employment and industry in Bay County.
Gulf County Board of County Commissioners	11/3/09 Letter	Letter indicating that the Gulf County Board of County Commissioners voted to support a resolution in support of the route that would best benefit Gulf County (to be submitted at a later date). The letter further stated that the Commissioners preference is a hybrid plan consisting of Corridor 8 on the southern side of SR 22 and either Corridor 14 or 15 on the northern side of SR 22, which they feel would best address the objectives of the Gulf Coast Parkway (to enhance economic development and to improve emergency evacuation).
Bay County Board of County Commissioners	11/18/09 Letter	Following attendance at the Gulf Coast Parkway public workshop on October 15, 2009, the County Commissioners and staff wrote to express their preference for Alternative Alignment 17 as providing the most benefit to future transportation in Bay County by upgrading Tram Road and Star Avenue and improving the intersection of Tram Road and Tyndall Parkway.
Port St. Joe Port Authority	10/24/12 Letter	The Port Authority writes that "As Port activity increases adequate roadway access will be critical to its success". They are asked by potential tenants how close are you to the interstate? They note the Parkway will provide the four-lane connectivity to I-10 that is needed to support freight movements through the port only if a northerly alignment is selected. Therefore, they are requesting FDOT to select an alternative alignment where its northern terminus with US 231 would be north of the existing US 231/Camp Flowers Road intersection. They also requested that FDOT encourage and enable the North Florida Transportation Corridor Authority to undertake a PD&E study for a connection between US 231/Gulf Coast Parkway and SR 77, thereby completing the connection between the airport and the Port of Port St. Joe.
City of Callaway	11/27/12 E-mail	The City of Callaway has spent approximately \$20 million to extend water and sewer utilities along CR 2297 in anticipation that FDOT would consider Alignment 17 the most reasonable route. Therefore, they recommend Alternative 17, and to a lesser degree Alignment 19, as the best option of the City and eastern Bay County.

Organization	Document	Agency Position
Gulf County Board of County Commissioners	02/12/13 Letter	<p>Gulf County Board of County Commissioners requested that the FDOT consider an alternative alignment where its northern terminus would connect with US 231 to the north of the existing US 231/Camp Flowers Road intersection (similar to Alternative 15). They believe this proposed route would provide most direct and shortest route to US 231 and most efficiently achieve the nine goals in the purpose and need. They noted that with the economic hardships of the past several years, and with potential creation of 200 jobs at the Port site in Port St. Joe within the next year, they desperately need connectivity to I-10 as it will be the major route for freight movement. With direct access to US 231 and I-10 the economic competitiveness of Gulf County would be greatly enhanced and the Port would receive the boost it needs to become active. The Commissioners also requested that the FDOT enable the NWFTCA to undertake a PD&E study for a connection from the US 231/Gulf Coast Parkway intersection to SR 77, to complete the connection between the airport and the Port of Port St. Joe.</p>

SECTION 2 ALTERNATIVES INCLUDING PROPOSED ACTION

The alternatives considered as part of the Gulf Coast Parkway Project Development and Environment (PD&E) Study are the result of extensive agency involvement and public outreach combined with detailed environmental and engineering analyses. **Figure 2-1** illustrates the major steps that have occurred in the development of alternatives beginning with a corridor feasibility study, through the development and evaluation of the project alternatives as part of National Environmental Policy Act (NEPA) analysis (shaded steps). The final step, the identification of the preferred alternative, will be documented in the Final Environmental Impact Statement (EIS).

Figure 2-1: Gulf Coast Parkway Alternatives Development Steps



In 2005, the project received federal funds earmarked for design. In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted resulting in the inclusion of the project in the Florida Department of Transportation (FDOT) Efficient Transportation Decision Making (ETDM) process. Entry into the Environmental Screening Tool (EST) provides the opportunity to obtain early agency involvement and public input in the project (agency comments and responses, including notations referring the reader to the appropriate sections of this EIS are provided in **Appendix I**). As a result of this agency input, the corridor study was revisited and new corridors were identified, screened, and provided to the public. Upon completion of the corridor evaluation phase, alternative alignment concepts were developed and evaluated within the most reasonable corridors. This evaluation led to the identification of the viable alternatives to be advanced for detailed study. This section of the EIS summarizes the alternatives development process.

2.1 GULF COAST PARKWAY PRELIMINARY STUDIES

Studies and input at key stages of the project development that culminated in the identification of viable alternatives include: The *Gulf Coast Parkway Corridor Feasibility Report*¹ (2004), the *Gulf Coast Parkway Concept Master Plan*² (2005), the *ETDM Programming Screen Summary Report*³ (April 2009), the *Gulf Coast Parkway Cultural Resources Corridor Probability Assessment Report*⁴ (April 2009), and the *Gulf Coast Parkway Corridors Evaluation Summary Report*⁵ (May 2009). These reports are summarized in this section, but may be referred to for more detailed information. These reports are on file at FDOT District 3 in Chipley, Florida.

2.1.1 Gulf Coast Parkway Corridor Feasibility Study Report

The *Gulf Coast Parkway Corridor Feasibility Report* was prepared in 2004 for a new roadway in Bay, Gulf, and Calhoun Counties. The study was performed to determine if a new roadway would be cost feasible and, if so, to identify a potential corridor in which it might be located. The purpose of the new roadway was to improve mobility by providing a new link in the regional transportation network; enhance the region's economic viability through improved freight mobility; increase the safety of the traveling public; improve hurricane and other emergency evacuation by providing an alternative and more direct evacuation route to the north; and to serve as an alternative route in the event US 98 through the Tyndall Air Force Base (AFB) Reservation should be closed to traffic.

The Corridor Feasibility Report created corridor alternatives by combining 21 half-mile wide segments that had been placed in logical paths between US 98 in Gulf County and US 231 in Bay County. The corridor segments followed existing alignments of paved and unpaved roads wherever possible but utilized new alignment when necessary (**Figure 2-2**). The corridor segments were evaluated for involvement with the social, natural, and physical environmental features in the area to identify those combinations of segments which provided corridors with the least impacts while meeting the project's purpose and need. The No-Build Alternative and five alternative corridors were identified for further study (**Figure 2-3**).

A wide range of factors were evaluated for each alternative corridor including costs, traffic service, engineering, environmental, and socioeconomic factors. Further, a cost-benefit analysis was conducted to verify the financial feasibility of each route. Although all the Build Alternatives were found to be financially feasible, there were considerable variations in their benefits. As a result, the report recommended advancing two corridors to be studied in the *Gulf Coast Parkway Concept Master Plan*. These alternatives were Corridor B and C. Corridor B was determined to be the most probable corridor for the project, because it made maximum use of existing routes, which would allow phased construction of the project, and because it greatly reduced the travel time of a detour when US 98, through the Tyndall AFB Reservation, was closed.

The construction of the second phase of the Gulf Coast Parkway might not occur for many years and development along the US 231 and State Road (SR) 22 corridors could increase substantially. This would greatly increase the costs and impacts of constructing the second phase and it was thought that a comparative reevaluation of the Corridor B alignment alternative with Corridor C alignment alternative might occur. Therefore, it was recommended to develop alignments within both corridors as part of the *Gulf Coast Parkway Concept Master Plan*.

2.1.2 Gulf Coast Parkway Concept Master Plan

The *Gulf Coast Parkway Concept Master Plan* evaluated in more detail the alternative alignments within the two corridors recommended by the *Gulf Coast Parkway Corridor Feasibility Report*. This report verified the findings of the Corridor Feasibility Report and led to a recommendation of a preferred corridor for the PD&E Study.

Figure 2-2: Corridor Segments from the Corridor Feasibility Report



Figure 2-3: Alternative Corridors from the Corridor Feasibility Report



2.1.3 Efficient Transportation Decision Making

ETDM is FDOT's process for advancing agency involvement in the transportation planning stages of a project's development. Agency input obtained at this stage is the basis for "agency scoping" efforts to satisfy NEPA and other applicable federal and state regulations that are addressed during the NEPA process. It also helps to identify early in the project's development, potential significant issues.

At the beginning of the PD&E study, after the completion of the Corridor Feasibility Report and Concept Master Plan, the project was entered into FDOT's (EST) and evaluated through the ETDM process.

The recommended corridor from the Corridor Feasibility Report was entered into the ETDM Programming Screen (as one corridor with six alternative options as shown in **Figure 2-4**). The initial Environmental Technical Advisory Team (ETAT) review was completed on April 30, 2006 at which time several agencies identified a degree of effect of Dispute Resolution for different resource areas (see **Section 5.2** for a discussion of Dispute Resolution). A meeting was held with the ETAT, FDOT, and Federal Highway Administration (FHWA) on October 17, 2006 to discuss the Dispute Resolution issues. During this meeting, FHWA made the decision to "re-start" the ETDM Programming Screen. The "re-start" would include an ETDM screening of:

- The six alternatives of the recommended corridor from the Corridor Feasibility Report initially reviewed in April 2006 (shown in **Figure 2-4**).
- The other four corridors from the original Corridor Feasibility Report (**Figure 2-3**).
- Any corridors the ETAT members wished to submit for consideration.

Eight additional alternative corridors (shown in **Figure 2-5**) were suggested by the ETAT members for consideration. With the six alternatives from the first programming screen review and the four original corridors from the Corridor Feasibility Study there was now a total of 18 corridor alternatives for consideration.

The 18 corridor alternatives were evaluated based on their ability to meet the criteria in the project's Purpose and Need Statement which was approved on January 25, 2007, by FHWA. FHWA determined that 12 of the 18 corridor alternatives met the purpose and need for the project. Prior to the start of the second ETDM Programming Screen review a justification memo detailing why 6 corridors had been eliminated (**Appendix A**) was entered into the EST for the ETAT to review and comment. No comments were received from the ETAT in response to this memo.

On February 13, 2007 the second ETDM Programming Screen review was initiated. The 12 corridor alternatives were re-numbered as Alternative 7 thru Alternative 18 in order to distinguish them from the previous corridor Alternatives (1 thru 6) in the first (April 2006) ETDM Programming Screen review.

- Corridor A from the original Corridor Feasibility Report was re-named Corridor 7.
- The six variations of the Corridor B from the first (April 2006) Programming Screen were re-named Corridors 8 through 13.
- Corridor C from the original Corridor Feasibility Report was re-named Corridor 14.
- Corridor D from the original Corridor Feasibility Report was re-named Corridor 15.
- Corridor E was eliminated as a part of the FHWA determination for corridors that did not meet the purpose and need criteria.

- Corridors 16 through 18 were the new corridors submitted by ETAT members (Northwest Florida Water Management District {NFWFMD}, United States Environmental Protection Agency {USEPA} and United States Fish and Wildlife Service {USFWS}) and not considered in the original Corridor Feasibility Report.

Table 2-1 summarizes the evolution of the corridor naming.

Table 2-1: Gulf Coast Parkway Corridor Names

Project Stage	Study Team Developed Corridors										ETAT Developed Corridors		
											NFWFMD	USEPA	USFWS
Corridor Study	A				B			C	D	E	N/A	N/A	N/A
1st Programming Screen	N/A	1	2	3	4	5	6	N/A	N/A	N/A	N/A	N/A	N/A
2nd Programming Screen	7	8	9	10	11	12	13	14	15	Eliminated	16	17	18

The 12 Alternative Corridors entered into ETDM for the second Programming Screen review are shown on **Figure 2-6**. Each of the 12 corridors is shown separately at a larger scale in **Appendix A**. As shown on the figures, Corridors 8 through 13 are essentially two corridors with a number of variations. These variations are in response to public and agency concerns.

At the conclusion of the ETDM review four resource areas received a Dispute Resolution Degree of Effect. These areas were wetlands, wildlife and habitat, coastal and marine, and secondary and cumulative effects. As a result of the Dispute Resolution Degree of Effects, Agreement Action Plans were developed by the FDOT, FHWA, and the ETAT members to outline the process for obtaining the information needed to resolve the disputes. These Agreement Action Plans can be found in **Appendix L** and a discussion of the Dispute Resolution process is provided in **Section 5.2** under Efficient Transportation Decision Making.

A table summarizing all of the ETAT comments from the Programming Screen Review and identifying how those comments are responded to in this and other project documents can be found in **Appendix I**.

Figure 2-4: Corridor with Six Options from the Initial Programming Screen Review

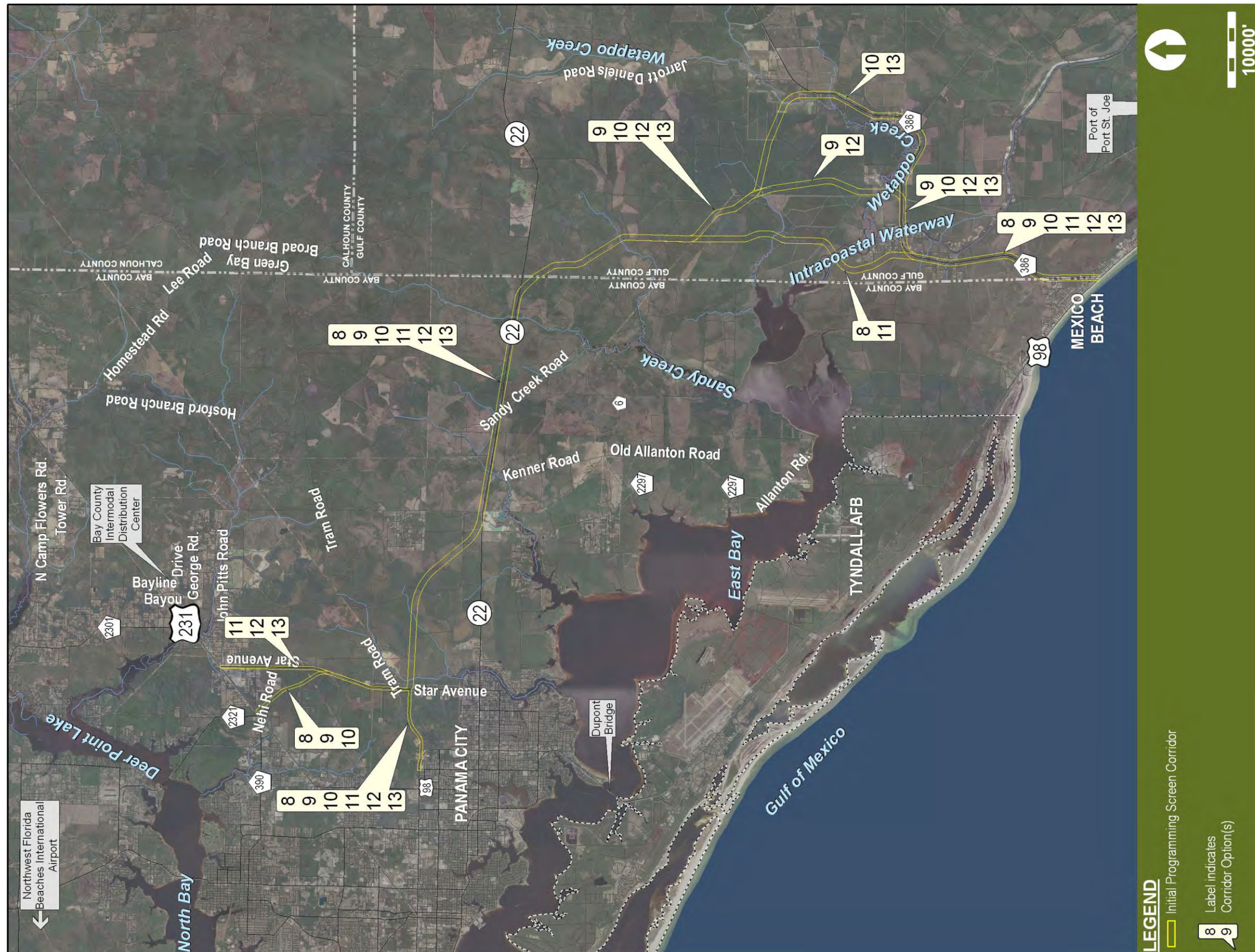


Figure 2-5: Alternative Corridors Recommended by ETAT for Second Programming Screen Review



Figure 2-6: Twelve Corridors Submitted for Second Programming Screen Review



2.2 CORRIDOR EVALUATION

A comparative evaluation of the 12 Alternative Corridors was performed to identify those corridors most reasonable to carry forward for more detailed study during the PD&E study. For comparative evaluation purposes, the build corridors were 800-feet wide in the rural areas and 400-feet wide in the urban areas.

A *Corridor Alternatives Evaluation Summary Report* (CAESR) was prepared to document the development and evaluation of these 12 corridors in detail. This report (available at FDOT District 3 and on the project website) discusses the use of land suitability mapping to develop corridor alignments that minimized involvement with sensitive resources. The report then describes in detail the procedure used for evaluating the corridors. This procedure was designed to evaluate each corridor alternative's performance (ranking) across a number of criteria characterizing three evaluation categories (purpose and need, natural and social environmental involvement, and cost). The corridors' rankings were then scored for each category and overall corridor rankings were calculated to determine which corridors performed the best.

A corridor alternatives' public meeting was also held at this time (discussed further in Section 8) and a public survey was distributed to obtain feedback on the corridors. Based on the information obtained from the public, the overall corridor rankings, and other considerations, such as the locations and unique purposes served by different corridors, a determination of which corridors were the most reasonable to be carried forward for further analysis was made.

A draft version of the CAESR was approved by the FHWA on March 19, 2009 for ETAT review. The ETAT completed their review on April 29 and the report was revised to include an appendix that summarized the ETAT comments and responses to those comments. **Two recommendations made by the ETAT were incorporated into the results of the CAESR which added to the corridor alternatives identified for further analysis:**

- An additional alternative designated Alternative 19 was included in the alternatives recommended for further study. Alternative 19 is a hybrid of the southern half of Alternative 17 and the northern half of Alternative 14.
- The southern half of Corridor 18, up to SR 22, was carried forth as an optional location for the development of alternative alignments within Corridors 8, 14, and 15.

After the revisions to the CAESR were made and the findings of the report updated, the Final CAESR and its recommendations for corridors to be carried forward for further analysis was approved by FHWA on June 15, 2009. For further detail on the corridor evaluation methodology, findings, results, and review comments see the Gulf Coast Parkway *Final Corridor Alternatives Evaluation Summary Report*.

2.2.1 Corridors Identified For Further Study

The *Final CAESR* documented the development and evaluation of alternative corridors and recommended that Corridors 8, 14, 15, and 17 be advanced for the development of alignment alternatives within each of them. Based on ETAT comment an additional alternative alignment, (Alternative 19) was to be designed which connected the south half of Alternative 17 to the north half of Alternative 14. Therefore, the reasonable corridor alternatives were Corridors 8, 14, 15, 17, and 19.

These recommendations serve as the basis for the development of Alignment Alternatives in the PD&E Study and are illustrated on **Figures 2-7A through 2-7F**. A description of these corridors as well as Alternative 19 follows.

Figure 2-7A: Gulf Coast Parkway Corridor Alternatives Identified for Further Analysis

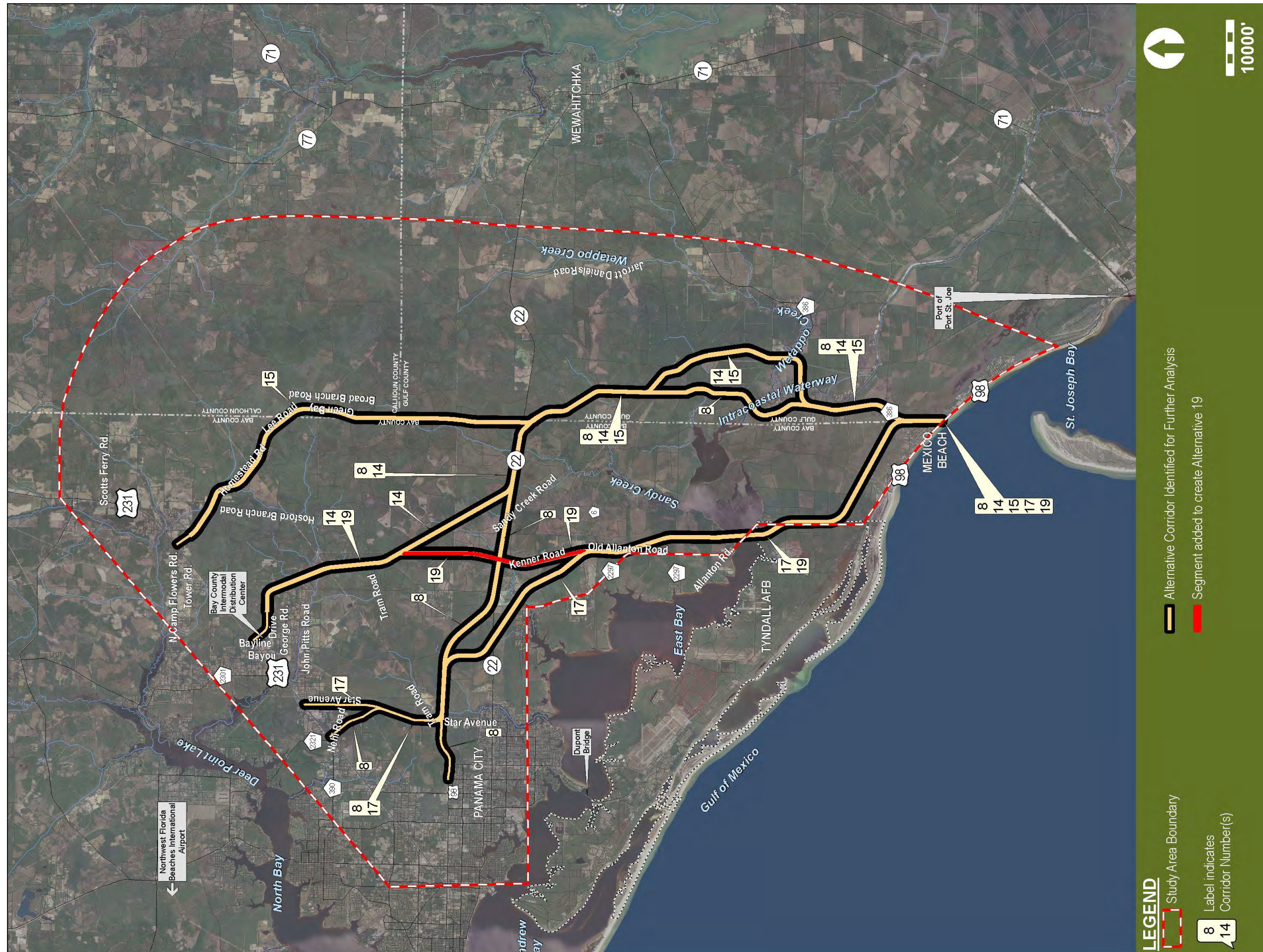


Figure 2-7B: Gulf Coast Parkway Corridor Alternative 8



Figure 2-7C: Gulf Coast Parkway Corridor Alternative 14



Figure 2-7D: Gulf Coast Parkway Corridor Alternative 15



Figure 2-7E: Gulf Coast Parkway Corridor Alternative 17

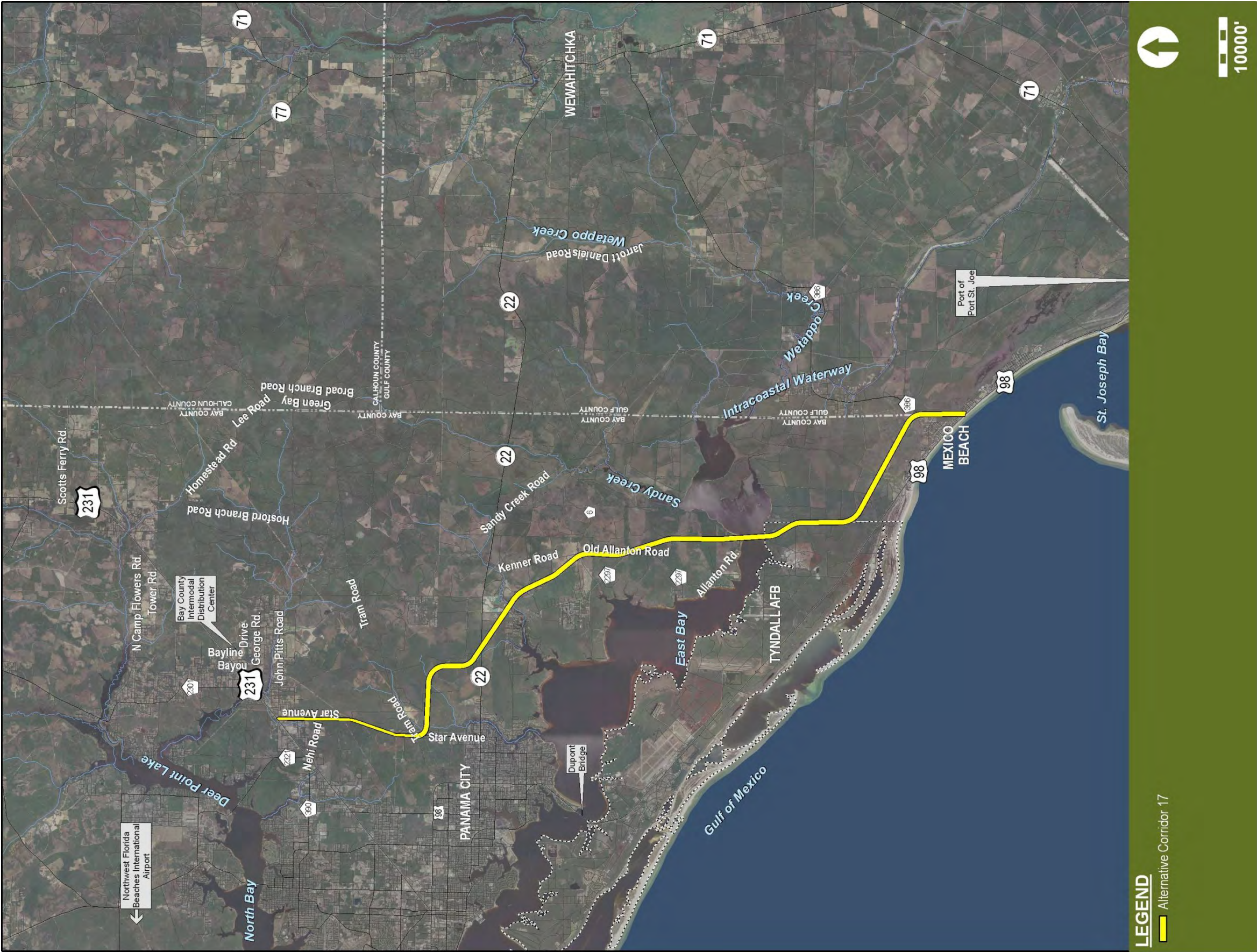


Figure 2-7F: Gulf Coast Parkway Corridor Alternative 19



Corridor 8 begins at the US 98/County Road (CR) 386 intersection and travels north along existing CR 386 for approximately 5.3 miles. From CR 386, it travels north on new alignment, bridging over Wetappo Creek and the Intracoastal Waterway (ICWW) to SR 22 approximately 10.4 miles. From SR 22, it travels west along the existing roadway for an approximate distance of 5.6 miles, then utilizing new alignment it travels northwest, and then west to CR 2315 (Star Avenue) near the CR 2315 (Star Avenue)/Tram Road intersection approximately 5.0 miles. At this location, the corridor splits and provides two routes to different termini. From CR 2315 (Star Avenue), the corridor heads west along Tram Road to its intersection with US 98 (Tyndall Parkway) in Springfield approximately 2.1 miles. Alternately, the corridor follows existing CR 2315 (Star Avenue) north for approximately 2.1 miles where it turns west, traveling along unpaved Nehi Road to US 231 approximately 2.2 miles. The Corridor 8 length is 32.7 miles.

Corridor 14 begins at the US 98/CR 386 intersection and follows existing CR 386 for approximately 6.5 miles. The corridor turns north (and slightly northwest) and continues on new alignment to SR 22, bridging over Wetappo Creek approximately 10.7 miles. At SR 22, the corridor follows existing SR 22 west for approximately 2.0 miles where it turns northwest and, using new alignment, continues approximately 10.9 miles to US 231 near Miller Road. The Corridor 14 length is 30.1 miles.

Corridor 15 begins at the US 98/CR 386 intersection and follows existing CR 386 for approximately 6.5 miles. The corridor turns north (and slightly northwest) and continues on new alignment to SR 22, bridging over Wetappo Creek approximately 10.7 miles. From SR 22, Corridor 15 continues north on new alignment to Homestead Road approximately 6.1 miles. Corridor 15 then follows Homestead Road in a northwest direction 6.3 miles to Stone Road. From Stone Road, the corridor continues northwest on new alignment for approximately 2.1 miles to US 231 near the US 231/Camp Flowers Road intersection. The Corridor 15 length is 31.7 miles.

Corridor 17 begins at the US 98/CR 386 intersection and travels north along existing CR 386 for approximately 1.6 miles. At this point, Corridor 17 departs CR 386 and, using mostly new alignment, travels northwest for approximately 4.2 miles to approach the eastern boundary of Tyndall AFB. At the Tyndall AFB boundary, the corridor turns north and continues on new alignment to SR 22, bridging East Bay; a distance of 13.6 miles. At SR 22, Corridor 17 turns west briefly before turning back to the northwest where it follows new alignment to CR 2315 (Star Avenue), approximately 3.6 miles north of SR 22. It then follows CR 2315 (Star Avenue) north to US 231. The Corridor 17 length is 27.9 miles.

Alternative 19 begins at the US 98/CR 386 intersection and travels north along existing CR 386 for approximately 1.6 miles. At this point, Corridor 17 departs CR 386 and, using mostly new alignment, travels northwest for approximately 4.2 miles to approach the eastern boundary of Tyndall AFB. At the Tyndall AFB boundary, the corridor turns north and continues on new alignment to SR 22, bridging East Bay; a distance of 13.6 miles. At SR 22 Alternative 19 continues north using new alignment approximately 10.9 miles to US 231 near Miller Road. The Alternative 19 length is 28.5 miles long.

2.3 DEVELOPMENT OF ALTERNATIVES

This section provides an overview of the development and analysis of the project's alternatives. It begins with a discussion of the design controls and standards that were needed for the proposed improvements. This leads into a narrative on how the alternative alignments were designed, starting with the selection of typical sections.

After the alternatives were designed, they were broken into smaller segments for comparison purposes. This allows for further refinement of the alternative alignments and for assessing the best solutions for

avoiding and minimizing impacts. After completing the segment comparison the final alternative alignments are evaluated and considered.

2.3.1 Design Controls

Design controls are characteristics and conditions that influence or regulate the selection of the criteria and project standards. Those controls include width of roadway, side slopes, horizontal and vertical alignment, drainage considerations and intersecting roads. Selection of the appropriate criteria and standards is influenced by traffic volume and composition, desired levels of service, functional classification, terrain features, roadside developments, environmental considerations and other individual characteristics.

High speed facilities on the State Highway System the Strategic Intermodal System (SIS) are subject to special standards and criteria for design speed, geometric design criteria, lane width, access classification, level of service (LOS), and other requirements. These are identified in *Topic No. 525-030-260, Strategic Intermodal System Highway Component Standards and Criteria*, and the *Roadway Plans Preparation Manual (PPM)*¹⁶. Design standards for these items are included in **Table 2-2**.

Traffic Volumes: Roadway geometric design shall be based on the project traffic for the design year. The design year for the project is 2035, which is 20 years after the assumed opening year of 2015. The Design Hour Volume (DHV) is the 30th highest hour. Project traffic has been developed in accordance with FDOT *Project Traffic Forecasting Procedure*¹ (Topic No. 525-030-120-g). For the purposes of developing project design standards, the Average Annual Daily Traffic (AADT) is considered in the normal range.

LOS: The SIS criteria set the minimum design and operation LOS. For the purposes of this study, existing conditions and projected future conditions are evaluated against these standards; and design alternatives are developed and evaluated for consistency with FDOT's Statewide Minimum LOS Standards to the State Highway System, established by Administrative Rule in 1992, (Rule Chapter No. 14-95). These standards for the SIS are LOS "B" in "Rural Areas" and LOS "C" in "Urban Areas". The Gulf Coast Parkway study area includes both urban and rural areas.

Design Speed: The design speed is an important design control that determines the selection of many of the project design standards. A design speed is generally 5 to 10 mph higher than the expected posted speed and is selected to obtain the highest degree of safety, mobility, and efficiency on the roadway. Specific design speed controls have been established for highways on the SIS and are applicable to this project. For controlled access arterial alternatives such as Gulf Coast Parkway, the minimum design speed is 65 mph on the rural roadway segments and 50 mph on the urban roadway segments.

Functional Classification: The Gulf Coast Parkway is not currently identified as part of the SIS, but will provide a major connection between other SIS roadways and is therefore being designed to meet SIS standards should it be decided in the future to include this road into the SIS network. The SIS is a statewide network of high priority transportation facilities, including the State's largest and most significant commercial service airports, spaceport, deepwater seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways and highways.

Access Classification: The SIS access management standards for controlled access segments of the SIS are those contained in Access Class 3 as defined in FDOT *Access Management Guidelines* and the *PPM*. The road should have a restrictive median with minimum traffic signal, median opening, and connection spacing as indicated in **Table 2-2**. Less stringent access standards are allowed under certain limited applications, but the higher standards will be used for design unless specific justification is provided.

Deviation from median opening standards shall follow the FDOT *Median Opening Decision Process* (Topic No. 625-010-020).

Pedestrian and Bicycle Requirements: For SIS controlled access facilities, the safe movement of bicycles and pedestrians must be carefully considered and accommodated in such a way as to have no adverse impact to safety, capacity, or speed. Bicycle facilities shall be consistent with the requirements of the *Florida Bicycle Facilities Planning and Design Handbook*² and the FDOT *PPM* (Topic Nos. 625-000-005 and 625-000-101).

2.3.2 Design Standards

For the Gulf Coast Parkway project, the design and construction criteria are required to adhere to FDOT standards and also must comply with the recommended standard practices as set forth in the following documents:

- *A Policy on Geometric Design of Highway and Streets*¹³ (American Association of State Highway Transportation Officials (AASHTO), 2004)
- *Roadway PPM, Volume I and II*¹⁵ (FDOT, 2009)
- *Roadway and Traffic Design Standards*¹⁶ (FDOT, 2009)
- *Drainage Manual*¹⁷ (FDOT, 2009)
- *Manual on Uniform Traffic Control Devices*¹⁸ (FHWA, 2003 as amended)
- *Highway Capacity Manual*¹⁹ (Transportation Research Board, 2000 as amended)
- *Quality/LOS Handbook*⁸ (FDOT, updated 2003)
- *Structures Design Manual* (FDOT, 2013)

Within the urbanized areas of Mexico Beach and Panama City, the Gulf Coast Parkway will be designed to meet the controlled access high-speed urban arterial criteria. Alignments located outside of the urbanized area will be designed to meet the controlled access rural arterial criteria. Per FDOT criteria, controlled access should maximize the use of limited access facility standards when constructing new arterial highways. For both the controlled access rural and urban sections, an access management class two or three will be utilized; however, in the rural areas where access is not immediately needed, the facilities will maximize the use of limited access standards as can be best accomplished within the controlled access rural right-of-way area.

The design criteria established by FDOT are met by each of the proposed alternatives. A Design Variation is not needed for this project.

Some criteria vary as a function of traffic volume, and FDOT has established ranges for low, medium, and high volumes. The 2035 projected traffic volumes indicate that the design criteria should be based on a high volume roadway. All criteria are subject to change and only current criteria will be used during the final design phase.

Table 2-2 and **Table 2-3** present the roadway design criteria established for each design element. **Table 2-4** presents the bridge design criteria.

Table 2-2: Design Criteria – Controlled Access Rural Arterial Facilities

Design Element	Design Standards	References (Comments)
Design Speed	65 mph	PPM Table 1.9.2
Access Management Class	Class 2 or 3	PPM Table 1.8.2
Horizontal Alignment		
Max Superelevation	0.10	PPM Table 2.9.1
Max Curvature ($e_{\max} = 0.10$)	4°15'00"	PPM Table 2.8.3
Slope Rate	1:250	PPM Table 2.9.3
Max Curvature ($e = 0.02$)	0°15'00"	PPM Table 2.8.4
Max Deflection Without Horizontal Curve	0°45'00"	PPM Table 2.8.1a
Length of Horizontal Curve	975" desired, but not less than 400"	PPM Table 2.8.2a
Min Curve Length Of Full Superelevation	200"	PPM Table 2.8.2a
Superelevation Transition (% tangent / % curve)	80/20	PPM Sec. 2.9
Horizontal Clearance	Varies	PPM Table 2.11.1 – Table 2.11.10
Clear Zone (CZ)	36"	PPM Table 2.11.11
Vertical Alignment		
Max Grade (Flat Terrain)	3.0%	PPM Table 2.6.1
Min K for Crest Curve	313	PPM Table 2.8.5
Min Length of Crest Curve	450"	PPM Table 2.8.5
Min K for Sag Curve	157	PPM Table 2.8.6
Min Length of Sag Curve	350"	PPM Table 2.8.6
Min Vertical Clearance (Rdwy Over Rdwy)	16'-6"	PPM Table 2.10.1
Min Vertical Clearance (Rdwy Over Railroad)	23'-6"	PPM Table 2.10.1
Max Change in Grade without Vertical Curve	.030%	PPM Table 2.6.2
Roadway Base Clearance above Design High Water	3"	PPM table 2.6.3
Min Stopping Sight Distance (@ ≤2.0% Grade)	645"	PPM Table 2.7.1
Min Stopping Sight Distance (@3.0% Grade)	682" Downgrade 612" Upgrade	PPM Table 2.7.1
Cross Section		
Lane Width	12"	PPM Table 2.1.1
Median Width (Includes Future Six-Lane Widening)	64"	PPM Table 2.2.1
Full Width Shoulder (Median)	8"	PPM Table 2.3.2
Full Width Shoulder (Outside)	12"	PPM Table 2.3.2
Paved Width Shoulder (Median)	2"	PPM Table 2.3.2
Paved Width Shoulder (Outside)	5"	PPM Table 2.3.2
Bridge Shoulder Width (Inside)	6"	PPM Figure 2.0.1
Bridge Shoulder Width (Outside)	10"	PPM Figure 2.0.1
Pavement Cross Slope	0.02	PPM Figure 2.1.1
Maximum Change in Cross Slope	0.04	PPM Figure 2.1.1
Shoulder Cross Slope (Median)	0.05	PPM Table 2.3.2
Shoulder Cross Slope (Outside)	0.06	PPM Table 2.3.2
Front Slope	Fill Height (Ft)	Rate
	0 – 5	1:6
	5 – 10	1:6 To Edge Of CZ & 1:4
	10 – 20	1:6 To Edge Of CZ & 1:3
	>20	1:2 (With Guardrail)
Back Slope	1:4 or 1:3 (With A Standard Width Trapezoidal Ditch)	
Traverse Slope	1:4	PPM Table 2.4.1
Border Width (Measured From The Shoulder Point To The right-of-way)	40"	PPM Table 2.5.1
Shared Use Path Width	12" (Two-Way)	PPM Sec. 8.6.2

REFERENCES:

- 1) The Florida Department of Transportation PPM²⁰, 2009, Revised 2010
- 2) The Florida Department of Transportation Design Standards²¹ (FDOT Standard Index), 2008

Table 2-3: Design Criteria Controlled Access High-Speed Urban Arterial Facilities

Design Element	Design Standards	References (Comments)
Design Speed	50 mph	PPM Sec. 2.16.1/ PPM Table 1.9.2
Access Management Class	Class 2 or 3	PPM Table 1.8.2
Horizontal Alignment		
Max Superelevation	0.05	PPM Sec. 2.16.10
Max Curvature ($e = 0.05$) (Based on $e_{max} = 0.10$)	2°30'00"	PPM Sec. 2.16.10/ PPM Table 2.9.1
Slope Rate	1:200 (4 lane section) 1:160 (6 lane section)	PPM Sec. 2.16.10/ PPM Table 2.9.3
Max Curvature ($e = 0.02$)	0°30'00"	PPM Table 2.8.4
Max Deflection Without Horizontal Curve	1°00'00"	PPM Table 2.8.1a
Length of Horizontal Curve	750'' Desired, But Not Less Than 400''	PPM Table 2.8.2a
Min Curve Length of Full Superelevation	200''	PPM Table 2.8.2a
Superelevation Transition (% Tangent / %Curve)	80/20	PPM Sec. 2.9
Horizontal Clearance	Varies	PPM Table 2.11.1 – Table 2.11.10
CZ	24''	PPM Table 2.11.11
Vertical Alignment		
Max Grade (Flat Terrain)	6.0%	PPM Sec. 2.16.8
Min Grade	0.30%	PPM Table 2.6.4
Min Distance Between Vertical Point of Intersection (VPI's)	250''	PPM Table 2.6.4
Min K for Crest Curve	136	PPM Table 2.8.5
Min Length of Crest Curve	300''	PPM Table 2.8.5
Min K for Sag Curve	96	PPM Table 2.8.6
Min Length of Sag Curve	200''	PPM Table 2.8.6
Min Vertical Clearance (Rdwy Over Rdwy)	16'-6"	PPM Table 2.10.1
Min Vertical Clearance (Rdwy Over Railroad)	23'-6"	PPM Table 2.10.1
Max Change in Grade Without Vertical Curve	0.60%	PPM Table 2.6.2
Roadway Base Clearance Above Design High Water	3''	PPM Table 2.6.3
Min Stopping Sight Distance (@ ≤2.0% Grade)	425''	PPM Table 2.7.1
Min Stopping Sight Distance (@6.0% Grade)	474'' Downgrade 388'' Upgrade	PPM Table 2.7.1
Cross Section		
Lane Width	12''	PPM Table 2.1.1
Median Width (Includes Future Six-Lane Widening)	54''	PPM Sec. 2.16.4
Pavement Cross Slope	0.02/0.03	PPM Figure 2.1.1
Maximum Change in Cross Slope	0.04	PPM Figure 2.1.1
Shoulder Width (Outside) (Measured To The Lip of The Gutter)	6.5''	PPM Sec. 2.16.5
Shoulder Width (Median) (Measured To The Lip of The Curb)	4''	PPM Sec. 2.16.5
Shoulder Cross Slope (Outside)	0.03	PPM Exhibit Typ-16 (Ch. 6 – Vol. 2)
Shoulder Cross Slope (Median)	0.02	PPM Exhibit Typ-16 (Ch. 6 – Vol. 2)
Front Slope	1:2 Or To Suit Property Owner, Not Flatter Than 1:6	PPM Table 2.4.1
Back Slope	1:2 Or To Suit Property Owner, Not Flatter Than 1:6	PPM Table 2.4.1
Traverse Slope	1:4	PPM Table 2.4.1
Border Width (Measured From The Edge of Travel Way To The right-of-way)	29''	PPM Sec. 2.16.7

REFERENCES:

- 1) The Florida Department of Transportation PPM, 2009, Revised 2012
- 2) The Florida Department of Transportation Design Standards (FDOT Standard Index), 2008

Table 2-4: Bridge Design Criteria

Geometric Provisions		
Design Speed		To Be Determined
Span Length		To Be Determined
Structure Width		To Be Determined
Minimum Clearances	Highways and Streets	16.5 feet vertical
	Railroads	23.5 feet vertical
		25 feet horizontal
Structures Design Manual Requirements & AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications		
Dead Load (DL)	Steel	490 pcf
	Reinforced Concrete	150 pcf
	Sacrificial Concrete	½ inch (Bridge Decks)
	Soil	115 pcf
	Soil at Mechanically Stabilized Earth (MSE) Walls	105 pcf
	Stay-in-Place Forms	20 pcf
Superimposed Dead Load (SDL)	Weight of Traffic Barriers	By Structural Design Guidelines (SDG) Table 2.1
	Future Wearing Surface	N/A
	Bridge Supported Utilities	None
Live Load	AASHTO HL-93	Truck + Lane
	Design Tandem	Two 25 kip axles, 4'' apart + Lane Loading
	Permit Vehicles	FL-120Strength II limit State
Longitudinal Forces	In accordance with	AASHTO Article 3.6.4
Centrifugal Forces	In accordance with	AASHTO 3.6.3
Thermal Forces	In accordance with	SDG 2.7.1
	Design Mean Temperature	70° F
	Range of thermal effects due to temperature rise and fall	Rise 35° F
		Fall 35° F
	Coefficient of thermal expansion	6.0 x 10 ⁻⁶ per °F Concrete
		6.5 x 10 ⁻⁶ per °F Steel
	Bridge bearings and expansion joints	Sized and set for all movements due to temperature changes.
Temperature Gradient	In accordance with SDG 2.7.2	
Wind Loads	In accordance with	SDG 2.7.2
Seismic Forces	Exempt	AASHTO 4.7.4.3.1 (Seismic Zone 1)
	Design Forces for Seismic Zone 1	AASHTO 3.10.9
	Bearing Support Dimensions	LRFD 4.7.4.4
Earth Forces	Abutments and Retaining Walls	AASHTO Section 11
Load Combinations		AASHTO Article 3.4, Table 3.4.1-1
Materials	Concrete	Location f _c '(Ksi)
		Parapets, Terminal Walls, Barriers to be determined
		Superstructure & Diaph. To be determined
		Columns, Caps, Footings and Abutments to be determined
		Prestressed Members to be determined
	Environmental Classification and Corrosion Control	Superstructure & Substructure to be determined
		Minimum Concrete Cover: SDG Table 1.2
	Steel	Prestressing Steel – Low relaxation prestressing strands ½", American Society of Testing Materials (ASTM) A-416, Grade 270 strands, with an area of 0.167 square in.
		Reinforcing Steel – ASTM A615, Grade 60
Structural Steel – ASTM A709 Grade 50 or 36		
Superstructure Design		
General	Distribution of Rail Loads	Per SDG 2.8
	Minimum Deck Slab Thickness	81/2 inches (including ½ inch Sacrificial Thickness)
	Deck Slab Design	Per SDG
	Deck Overhangs	Provide Steel per SDG 4.2.4 or 4.2.5
	Continuous Deck Slabs	Supplemental top slab reinforcement per SDG 4.2.6
	Casting Sequence	Minimum of 72 hours between adjacent ours. Construction joints provided at no more than 80 feet

Table 2-4: Bridge Design Criteria, cont.

General	Skewed Bridges	Slabs skewed less than 15° will have reinforcement placed parallel to skew
		Slabs skewed more than 15° will have reinforcing placed perpendicular to centerline
	Stay-in-Place Forms	Metal Stay-in-Place Forms allowed
	Bridge Floor Grooving	Bridge Decks to be Grooved
	Bearings	Use laminated elastomeric bearings
	Expansion Joints	Poured Silicone Preferred
Concrete Design	Design Method	Prestressed girders shall be designed by the AASHTO LRFD method and the requirements of SDG 4.3.1
	Bearing Plates	Embedded bearing plates shall be provided in Florida Bulb T's or other skewed concrete girder bridges less than 45°.
	Design Groups	Beam designs will be grouped to maximize casting bed usage.
	Camber	Camber will be based on 120-day old concrete and account for proposed casting sequence.
Steel Design	Minimum Web thickness	7/16 inch
	Minimum Flange width	12"
	Minimum Flange thickness	¾ inch
	Bolted structural connections	A325 type I bolts designed as slip critical
	Girder System	Multi-girder to provide redundancy and avoid fracture critical designations
Substructure Design		
Loading		AASHTO HL-93 or Design Tandem. Truck Loading + Lane Loading.
	Abutments and Piers	LRFD Method
	Pier Caps and Columns	Impact shall be included
	Footings	Impact shall be omitted
	Fixed Piers	Longitudinal forces in proportion to the stiffness
	At Bearings	Apply friction force, longitudinal force from vertical loads, and wind longitudinal force
	Piers	2 inch eccentricity longitudinally off the theoretical centerline of bearings to account for possible field adjustment.
Columns		Utilizing Effective length and slenderness effects or a P-Delta analysis in accordance with AASHTO
	Columns on pile caps with multiple shafts	Assume to be fully fixed to the footing and designed as rigid frames above footing.
	Columns on single shafts	Design taking into account soil parameters (i.e. determine point of fixity assuming springs)
	Reinforcing	As specified in SDG 3.11
	Column height	Greatest column height used when piers using same reinforcing are designed.
Abutments	Horizontal Design Forces	Equivalent fluid weight shall be as per soils report.
	Abutment piles or shafts with MSE wall volume	Disregard 400 kip vehicular impact force
Foundations	Redundant Foundations	Single Column Pier – minimum 4 drilled shafts
		Two Column Pier – minimum 3 drilled shafts under each column (total minimum 6 shafts)
		Three or more Column Pier and Widening – minimum of one drilled shaft under each column.
	Foundation Type & Capacity	As stated in Geotechnical Report
	Foundation Axial Design Capacity	Based on factored loads
	Foundation Lateral Resistance	In accordance with Geotechnical Report
Geometric Design		
Typical Section	Interim Bridge Typical Section	Figure 2.0.1, PPM 2.0
	Cross Slope	Bridges with one-way traffic shall have one, uniform cross slope, PPM 2.1.5
	Median Width	PPM 2.2.3

Table 2-4: Bridge Design Criteria, cont.

	Shoulder Widths	Generally, shoulder width should be same width as the approach roadway shoulder up to a maximum of 10 feet. Figure 2.0.1 and Figure 2.0.2, PPM 2.0
	Bridge railings and separators	PPM 2.12
Vertical Clearance over Water	Drainage: minimum vertical clearance between the design flood stage and the low member elevation of bridges shall be a minimum of 2.0 feet.	PPM 2.10.1
	Navigation: minimum vertical clearance for navigation purposes shall be: <ul style="list-style-type: none"> • 6 ft. above mean high water (MHW) for tidewater bays and streams • 6 ft. above normal high water (NHW) for freshwater rivers, streams, non-regulated/controlled canals, and lakes • 6 ft. above control elevation for regulated/controlled lakes and canals Minimum vertical at the navigable channel clearance is measured from the low point of the structural member of bridge. For coastal bridges vertical clearance of the superstructure shall be a minimum of 1 ft. above the 100-year design wave crest elevation including the storm surge elevation and wind setup. Greater minimum vertical clearances may be required by the United States Coast Guard (USCG) for waterways such as the ICWW where 65 ft is usually required.	PPM 2.10.1
Horizontal Waterway Clearance	Minimum horizontal clearances: <ul style="list-style-type: none"> • For crossings subject to boat traffic a minimum horizontal clearance of 10 feet shall be provided. • Where no boat traffic is anticipated, horizontal clearance shall be consistent with debris conveyance needs and structure economy. Greater minimum horizontal clearances may be required by the USCG for waterways such as the ICWW where 150 ft is usually required.	PPM 2.10.2
Pedestrian and Bicycle Facilities	Shared use path structure minimum clear width is 12 ft. Sidewalks shall be a minimum of 5 ft. Separate bicycle paths shall be a minimum of 4 ft.	PPM 8.7.1
Miscellaneous		
Drainage		Designed to remove all water from bridge and emptied into drainage areas off of the bridge
Utilities		No utilities to be attached to bridge
Lighting		Lighting not proposed
Signage		No signs to be attached to bridge.

2.3.3 Stormwater Management Requirements

Regardless of the alternative selected, the stormwater treatment system will be a combination of closed and open drainage (depending on whether an urban or rural typical section is used) that collects and transports stormwater to treatment ponds. The number of potential ponds and their sizes has been determined for each alternative. Pond basin limits along the alternatives were estimated based upon United States Geological Survey (USGS) Quadrangle maps assuming that the profile will generally follow topographic contours except that the profile will be raised to some degree where cross drains or bridges are required. It was also assumed that there would not be more than 4000 feet of roadway draining in one direction unless the contours were dropping significantly. Due to the high groundwater table in the project area, it is assumed all ponds will be wet detention. Most of the alternatives drain to East Bay and its tributaries while some drain to Deer Point Lake. These are Class II and I respectively,

which share the same water quality criteria as Class III waters. Although these waters should not dictate the additional protection of an Outstanding Florida Waters (OFW), we have assumed the ponds must meet the OFW criteria of an additional 50% of water quality volume (1.5" runoff). This creates a degree of conservatism in the pond size estimates and it is realized that during the design phase it may be determined that standard treatment volumes apply. This conservatism somewhat offsets the simplifying assumptions of basic rectangular shape and no radii in corners of the ponds.

Rather than compute specific pond sizes for each basin, the treatment volume was computed for each basin. Then a pond size was selected that would accommodate the treatment volume and estimated attenuation volume. Eight pond sizes were developed and each accommodates a different range of treatment volumes. One pond size can accommodate different treatment volumes because the volume can be stacked to varying depths up to 1.5 foot maximum. This is a reasonable approach for a preliminary effort. The eight pond sizes and associated treatment volumes are shown below.

Table 2-5 Pond Area Required

Range of Treatment Volume Required (ac-ft)	Surface Area at Normal Water Level (NWL) (acres)	Total Pond Area Required (acres)
0.50 TO 1.00	0.75	2.14
> 1.00 TO 1.50	1.25	2.95
> 1.50 TO 2.50	2.00	4.06
> 2.50 TO 3.50	3.00	5.45
> 3.50 TO 4.50	4.00	6.78
> 4.50 TO 5.50	5.00	8.06
> 5.50 TO 6.50	6.00	9.32
> 6.50 TO 7.00	6.75	10.25

The total pond acreage was based on the following:

- Pond Length to Width Ratio of 2:1, rectangular shape, no corner radii
- The area of the normal water surface was calculated assuming average treatment volume in the range was contained in one foot of depth with vertical walls
- Four foot depth at 1:6 slope from NWL to Maintenance Berm
- 20-foot wide Maintenance Berm
- Drop of four feet at 1:4 from top of Maintenance Berm to natural ground.
- Assumed offsite is routed around the pond. This is reasonable given the proposed road is likely a fill section to accommodate base clearance.

The attenuation volume is typically achieved within 1.5 to 2 feet above the treatment volume, so the assumed four foot depth below the low edge of the maintenance berm should be sufficient.

Average basin length for each segment varies from 1,300 feet to 9,600 feet. Because the preferred alternative has not been selected and due to the overall length of the project, pond site alternatives for each basin have not been identified. **Table 2-6** summarizes the number of pond sites required for stormwater management for each alternative. Calculations for the pond acreages are provided in the appendices of the *Pond Requirements Report* prepared for this project.

Table 2-6 Pond Requirements by Alternative

Alternative	Length (miles)	Number of Ponds	Pond Acreage Required	Number of Ponds/Mile	Pond Acreage/Mile
8	38	57	256	1.5	6.7
14	44	66	308	1.5	7.0
15	48	70	332	1.5	6.9
17	33	42	210	1.3	6.4
19	38	52	256	1.4	6.7

2.3.4 Bridges

Bridges will be required on all build alternatives. Most waterway crossings will be at grade, but the crossing of the ICWW in East Bay by Alternatives 17 and 19 and the ICWW/Wetappo Creek by Alternatives 8, 14, and 15 are over navigable waterways and will require high-level bridges. **Table 2-7** provides a summary of the number of bridges and culverts proposed for each alternative. Refer to the *Location Hydraulic Report* prepared for this project for information on the location and sizing of the bridges and culverts.

Table 2-7: Proposed Bridges and Culverts by Alternative

Alternative	Number of High Level Bridges	Approximate Length of High Level Bridge (in feet)	Number of Low Level Bridges	Approximate Length of Low Level Bridges (in feet)	Number of Box Culverts	Number of Small Culverts
8	1	7,000	10	1,796	12	19
14	1	7,000	12	2,071	16	24
15	1	7,000	12	6,384	14	26
17	1	9,100	4	1,626	3	13
19	1	9,100	6	1,903	5	19

In addition, not shown in **Table 2-7**, Alternatives 8 and 17 have a high-level flyover at US 231 and Nehi Road that also crosses the Bay Line Railroad.

2.3.4.1 Navigable Water Crossings

There are two navigable waterways within the study area: the Gulf ICWW and Wetappo Creek. The ICWW is a navigable toll-free shipping route extending for about 3,000 miles along the Atlantic Ocean and the Gulf of Mexico coasts in the southern and eastern United States. It utilizes sounds, bays, lagoons, rivers, and canals and is navigable by deep-draft vessels in many locations. The route is federally maintained and is connected to other inland waterways in many places.

Wetappo Creek is a tidally influenced creek (tidal gage station ID 8728957) that is mostly utilized by recreational boats, including high mast sailboats. However, use of the waterway by high-mast boats is by the at-grade bridge across Wetappo Creek on Pleasant Rest Road, east of Overstreet. Anecdotal information indicates that, because of the depth of its channel and its distance from the Gulf of Mexico, the creek has been used as a hurricane “hole” (a place of refuge) by other types of vessels.

The USCG, the United States Army Corps of Engineers (USACE), the NFWMD, the Florida Department of Environmental Protection (FDEP), Gulf County, Bay County, and the Port of Port St. Joe were contacted in an effort to determine actual boat usage of Wetappo Creek and Gulf ICWW, in the study area. None of the agencies contacted had information on the types of vessels, the number of vessels, frequency of travel, or periods of high usage.

In addition, marinas and boatyards within three miles of each bridge site were canvassed to obtain information on boats at their facilities and the percentage that used either Wetappo Creek or the Gulf ICWW. **Table 2-8** presents a summary of the reported findings.

Table 2-8: Result of Survey of Marinas and Boatyards

Marina/Boatyard	Number of Moored Boats	Type of Boats	Range of Lengths (in feet)	Range of Heights (in feet)	Percent Boats Using ICWW	Percent Boats Cruising Wetappo Creek
Watson Bayou Marina	50	Sailboats	24-40	Up to 50	5%	1%
Panama City Marina	300	All types	24-60	Up to 60	25%	0%
Bayou Joe's Marina						
Pier 98 Marina	15	All types	25-40	Up to 50	15%	1%
Bay County Boatyard	25	All types	25-65	Up to 60	30%	0%
Smuggler's Cove Marina	19	Sailboats	20-47	Up to 55	3%	0%

Boat usage of the waterways was investigated by conducting a survey of boat traffic at the DuPont Bridge on July 17, 2013 and the Overstreet Bridge on July 18, 2013. There were eighteen boats that passed under the DuPont Bridge. Of these, two were commercial boats and the remaining boats were recreational watercraft. The two commercial boats ranged in length from 45 feet to 55 feet and ranged in height from 15 feet to 20 feet. The recreational boats included a mix of cruisers, fishing boats of various types, pontoon boats, a single houseboat, and a single sailboat. The longest boats were the cruisers which ranged in size from 26 feet to 45 feet in length and 10 to 15 feet in height. The tallest boat was the sail boat which had a 40 foot high mast and was 35 feet in length. A little more than half the boats (10) were headed in the direction of East Bay and eight were headed in the direction of St. Andrew Bay. **Appendix P** contains the data from the field survey.

The boat survey of Wetappo Creek at the Overstreet Bridge on July 18, 2013, resulted in only one boat, a center console, 22 feet in length and 10 feet in height. It was headed west (toward East Bay).

The ICWW has an established vertical guide clearance of 65 feet and a horizontal guide clearance of 150 feet, the same vertical and horizontal clearances provided by the Overstreet Bridge (constructed in 1988), east of the project. The older DuPont Bridge (constructed in 1965), located west of the project near the entrance to East Bay from St. Andrew Bay, provides 50 feet vertical clearance and 150 feet horizontal clearance.

Because the crossing of Wetappo Creek by Alternatives 8, 14, and 15 would be located where Wetappo Creek and the Gulf ICWW are adjacent to each other, the proposed bridge would cross both waterways with a 65-foot high vertical clearance. Horizontal clearance is yet to be determined, but is being coordinated with the USCG. The length of the proposed crossing of the ICWW/Wetappo Creek by Alternatives 8, 14, and 15 is estimated to be 7,000 feet.

The crossing of Gulf ICWW in East Bay by Alternatives 17 and 19 would provide 65 feet vertical clearance and 150 feet horizontal clearance at the main navigation channel. The length of the proposed crossing of the ICWW through East is estimated to be 9,100 feet. The actual bridge length will be refined in the design phase when detailed survey data is available.

Bridges over navigable waterways usually require a fender system and navigational lighting. Fender systems serve primarily as navigation aids by delineating the shipping channel beneath bridges, but also serve to protect the bridge substructure from potential damage due to minor collisions from vessels. The fender system requirements for the Gulf Coast Parkway navigable waterway crossings have not yet been established; however, the proposed fender system will be consistent with the FDOT structures design guidelines for fender systems and approved by the USCG.

Bridge lighting requirements also have not been officially established. It is assumed, as minimum, that the same lighting requirements for the DuPont and Overstreet bridges will be required. For a multiple span fixed bridge this requires a green light with three vertical white lights to indicate the center of the main channel, green lights between piers within the channel but to either side of the main channel, and a red light on the bridge at the channel margin and red lights on each bridge pier in the channel. Where vertical clearance is affected by tides, the USCG may require a bridge clearance gauge be provided. The proposed navigational aids system will be designed in accordance with the USCG manual Bridge Lighting and Other Signals and approved by the USCG. Coordination with the USCG to establish the final horizontal and vertical clearances and navigational aids requirements is ongoing.

2.3.4.2 Non-navigable Waterway Crossings

Several named and unnamed creeks and streams are present throughout the study area that will, depending on the alternative, require bridging either by structure or bridge culvert. **Table 2-9** summarizes information on the structure type (bridge, bridge culvert) and size for the crossings of named waterways by alternative. Crossings of unnamed creeks and swamps not included in **Table 2-9** are addressed in the *Location Hydraulic Report* prepared for this project. The locations of all proposed bridges and bridge culverts are shown on **Figure 2-8**.

Figure 2-8: Proposed Locations of Bridges and Culverts by Alternative

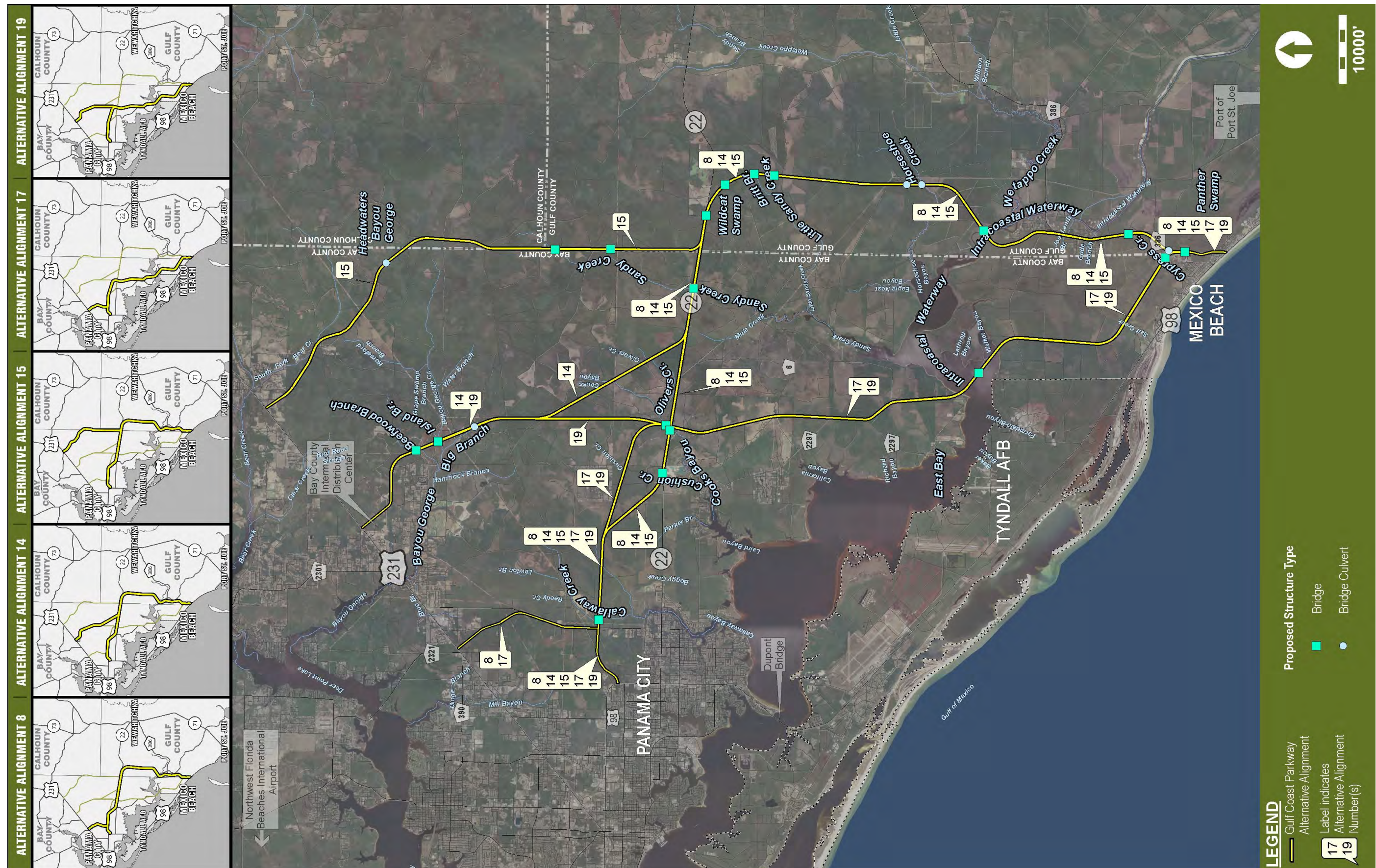


Table 2-9: Named Surface Water Crossings by Alternative

Surface Water	Alternative				
	8	14	15	17	19
Panther Swamp	58 ft. bridge replacing ex. bridge	58 ft. bridge replacing ex. bridge	58 ft. bridge replacing ex. bridge	58 ft. bridge replacing existing structure	58 ft. bridge replacing existing structure
Cypress Creek	79 ft. bridge replacing ex. bridge	79 ft. bridge replacing ex. bridge	79 ft. bridge replacing ex. bridge	New 500 ft. bridge	New 500 ft. bridge
ICWW/East Bay	-	-	-	New 9100 ft. high level bridge	New 9100 ft. high level bridge
Olivers Creek	-	-	-	New 68 ft. bridge	New 68 ft. bridge
ICWW/Wetappo Creek	New 7000 ft. high level bridge	New 7000 ft. high level bridge	New 7000 ft. high level bridge	-	-
Horseshoe Creek	New culvert	New culvert	New culvert	-	-
Horseshoe Creek	New culvert	New culvert	New culvert	-	-
Little Sandy Creek	New 84 ft. bridge	New 84 ft. bridge	New 84 ft. bridge	-	-
Britt Branch	New 82 ft. bridge	New 82 ft. bridge	New 82 ft. bridge	-	-
Wildcat Swamp	42 ft. bridge replacing ex. culvert	42 ft. bridge replacing ex. culvert	42 ft. bridge replacing ex. culvert	-	-
Wildcat Swamp	New 47 ft. bridge	New 47 ft. bridge	New 47 ft. bridge	-	-
Sandy Creek	300 ft. bridge replacing ex. 227 ft. bridge	300 ft. bridge replacing ex. 227 ft. bridge	300 ft. bridge replacing ex. 227 ft. bridge	-	-
Cooks Creek/Olivers Creek	New 68 ft. bridge	New 68 ft. bridge	New 68 ft. bridge	-	-
Cushion Creek	36 ft. bridge replacing ex. culvert	36 ft. bridge replacing ex. culvert	36 ft. bridge replacing ex. culvert	-	-
Callaway Creek	New 1000 ft. bridge	New 1000 ft. bridge	New 1000 ft. bridge	New 1000 ft. bridge	New 1000 ft. bridge
Big Branch	-	New culvert	-	-	New culvert
Bayou George & Island Branch	-	New 205 ft. bridge	-	-	New 205 ft. bridge
Beefwood Branch	-	New 70 ft. bridge	-	-	New 70 ft. bridge
Sandy Creek	-	-	New 4,500 ft. bridge	-	-
Headwaters Bayou George	-	-	New culvert	-	-

2.3.4.3 US 231 Flyover

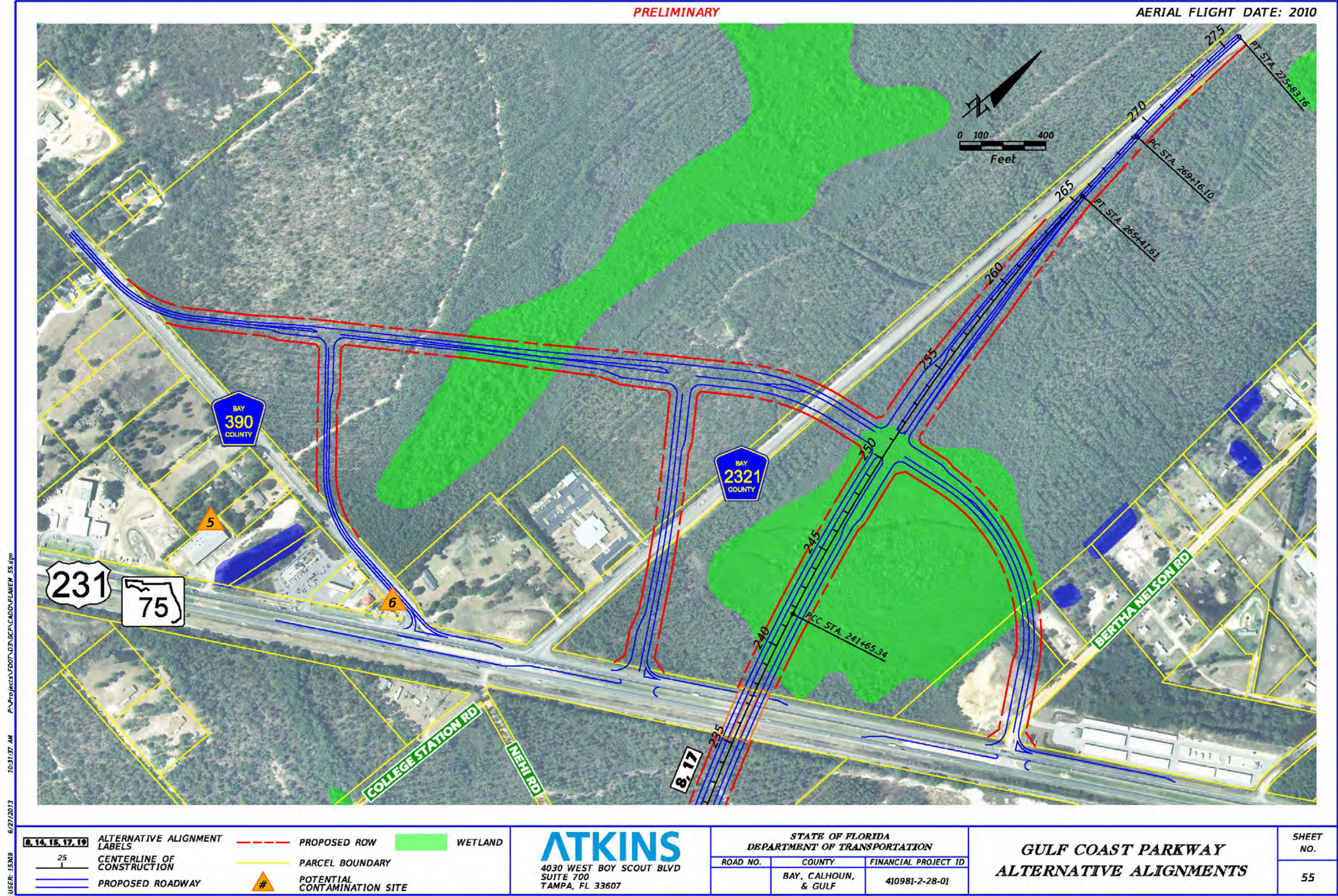
Clearance requirements for the proposed 250-foot long dual structure over the Bay Line Railroad and US 231 (shown in **Figure 2-9**) will be coordinated with the railroad company (Genesee and Wyoming Corporation of Rochester, NY); however, minimum horizontal clearance for a normal railroad crossing measured from the center of track is 18 feet with crash walls and 25 feet without crash walls¹. This would be in addition to the clearance requirements for US 231, which is 24 feet from the edge of the auxiliary lane.² Minimum vertical clearance measured from the bottom of the superstructure to the top of the highest rail should be 23.5 feet³.

¹ Florida Department of Transportation, *Plans Preparation Manual*, 2013, Chapter 6, Table 6.3.3, p. 6-5.

² Florida Department of Transportation, *Plans Preparation Manual*, 2013, Figure 2.10.1, Table 2.11.11, & Figure 4.1.2.2

³ Florida Department of Transportation, *Plans Preparation Manual*, 2013, Chapter 2, Table 2.10.1, p. 2-62

Figure 2-9: Alternatives 8 and 17 US 231 Flyover



2.3.5 Development of Alignment Alternatives

An alignment alternative was developed within each of the five corridors selected for detailed analysis. The design of the alignments was based on the projected traffic demand and the engineering criteria. The following subsections describe the development of the alignment alternatives.

2.3.5.1 Proposed Roadway Typical Sections

Based on the need to meet the criteria for a high-speed arterial roadway (with urban and rural typical sections) and the 2035 future traffic demand (as discussed later in this section and in the Gulf Coast Parkway Traffic Report), the proposed typical section for the design year (2035) will be a four-lane divided roadway with stormwater management and bicycle and pedestrian facilities. The configuration of the typical section depends upon its location. The rural arterial typical section includes four 12-foot lanes with 12-foot outside shoulders, five foot paved, and eight-foot inside shoulders, two-foot paved, separated by a 64-foot median. Included in the rural arterial typical section is a 12-foot paved shared use path, on one side (**Figure 2-10**). The four-lane high-speed urban arterial section includes four 12-foot lanes with a 6.5-foot bicycle path in the outside shoulders and four-foot paved inside shoulders, separated by a 46-foot median. This is a curb and gutter section with five-foot paved sidewalks on each side of the roadway (**Figure 2-11**).

The project is anticipated to be constructed in segments based on a variety of factors including the need for connectivity, transportation demand, and funding. In some segments the project may be constructed initially with two 12-foot lanes (and pedestrian facilities as shown on the interim typical sections provided in Section 2); however, the right-of-way will be obtained to allow for the needed future expansion. The interim typical section would be constructed off-set in the right-of-way to allow for the future expansion to four lanes without affecting traffic or the shared use path. The proposed design speed is 65 mph for the rural roadway, and 50 mph for the urban roadway.

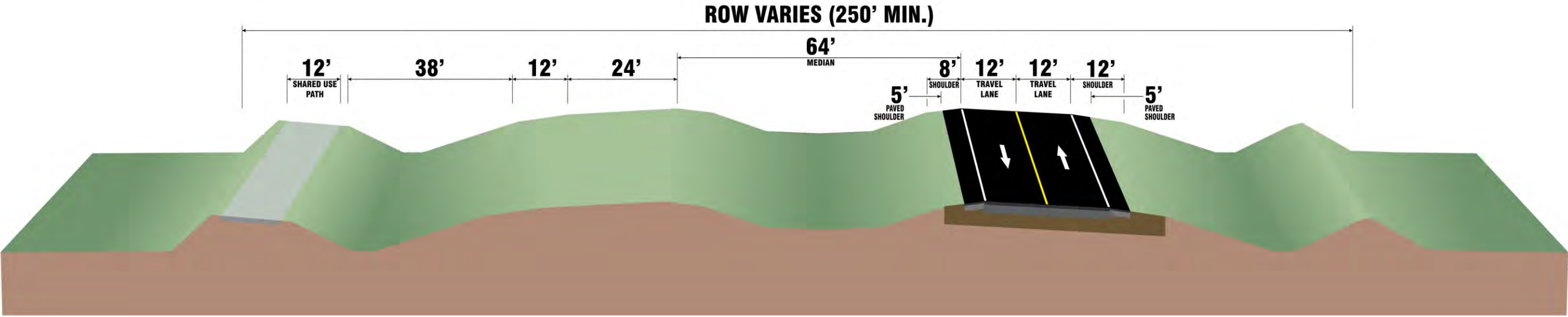
2.3.5.2 Proposed Bridge Typical Sections

The interim and ultimate, rural and urban, bridge typical sections are shown in **Figures 2-12 and 2-13**. They have been designed to match the roadway typical sections, except that the bridge typical sections provide bicycle/ pedestrian facilities on the structure. The rural typical section would accommodate bicycles and pedestrians on a 12-foot shared use path on one of the dual structures while in urban areas, there would be a 10-foot outside shoulder with a five-foot sidewalk on both structures.

In the interim situation, the bridge typical constructed would provide either the five-foot sidewalk or the 12-foot shared use path depending on whether the rural or urban typical section is being constructed. Under the interim typical section, the constructed bridge would not have a crest, but would have a uniform cross slope. This permits the addition of a second two-lane bridge having an opposing cross slope with the crest between the two structures.

Figure 2-10: Proposed Rural Arterial Typical Section

Interim Rural Typical



Ultimate Rural Typical

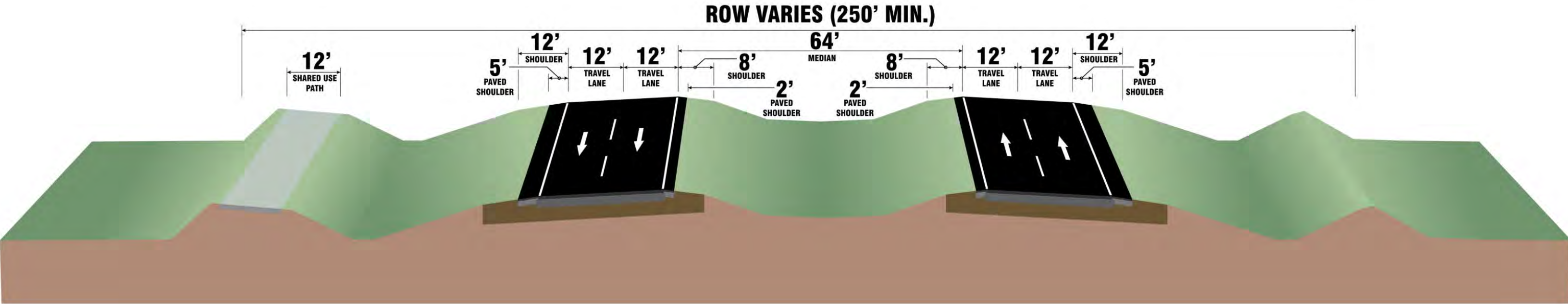
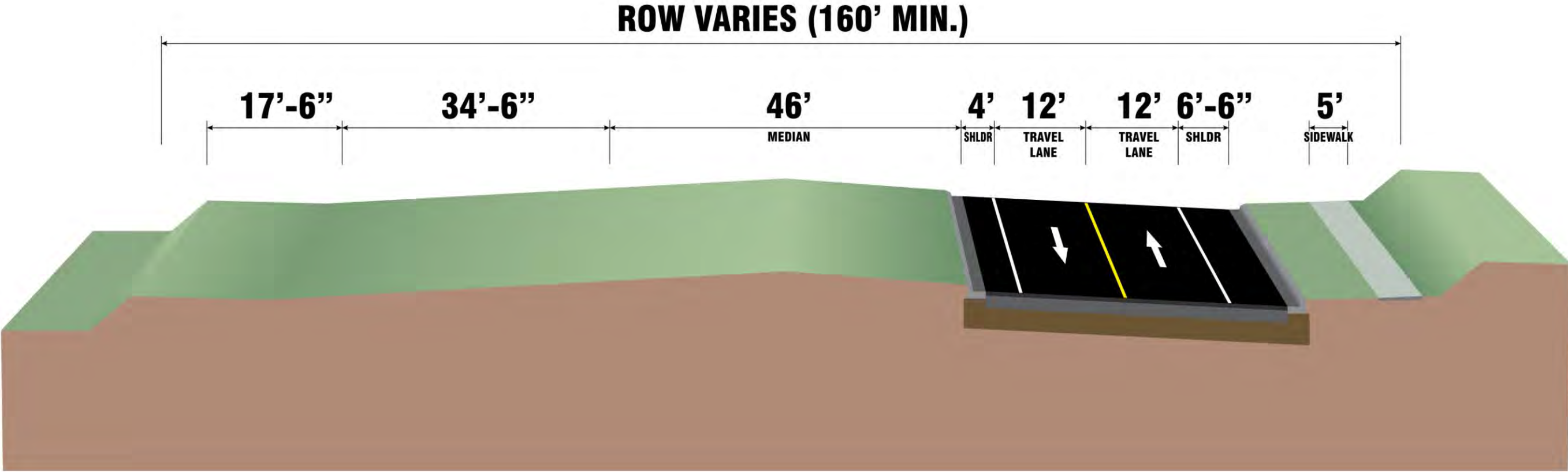


Figure 2-11: Proposed Urban Arterial Typical Section
Interim Urban Typical



Ultimate Urban Typical

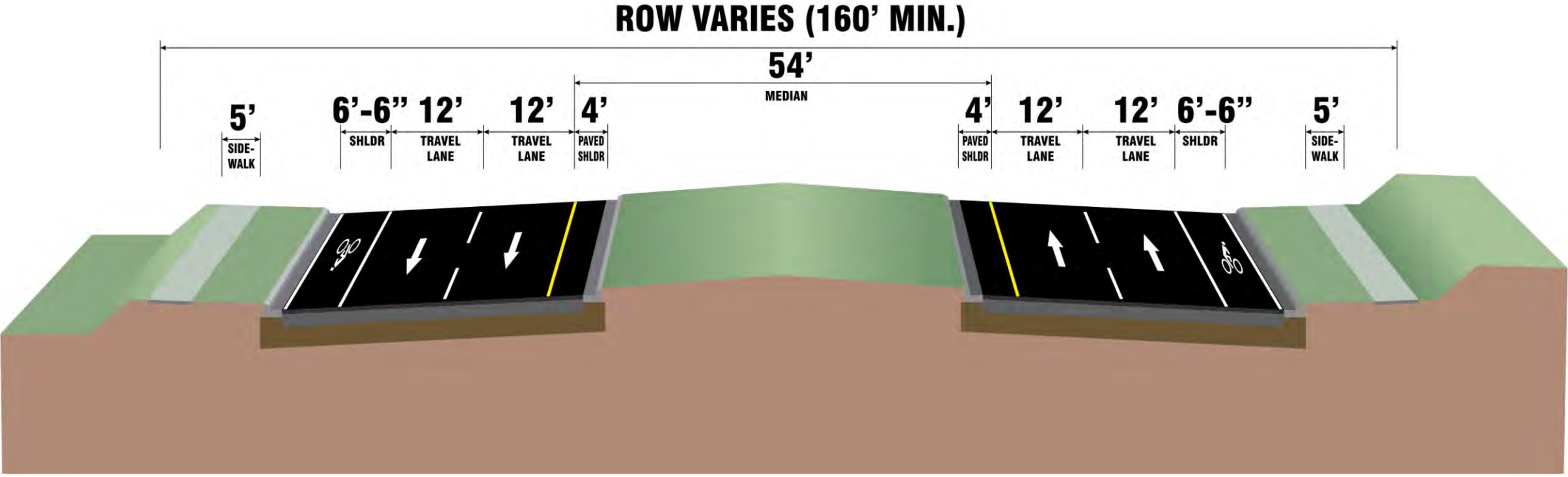
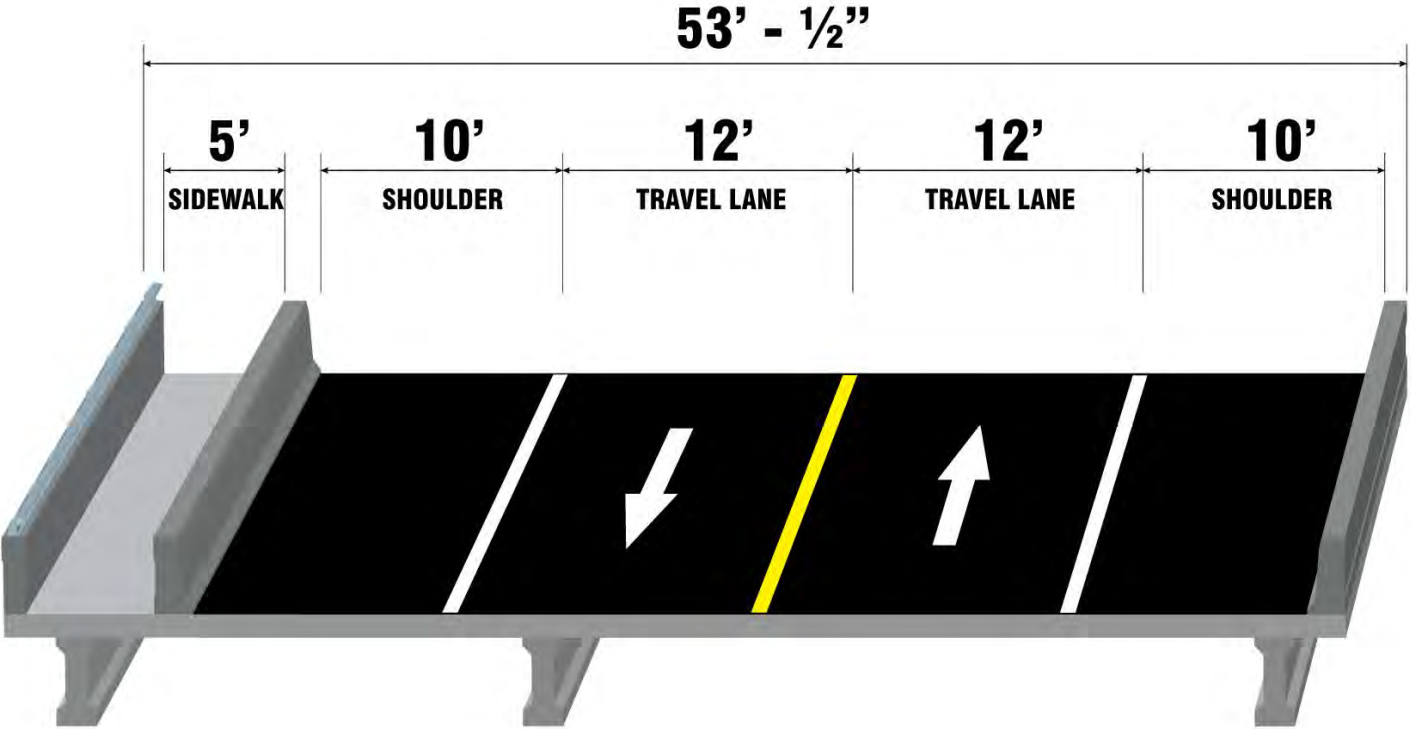


Figure 2-12: Proposed Interim Bridge Typical Sections
Interim Urban Bridge Typical



Interim Rural Bridge Typical

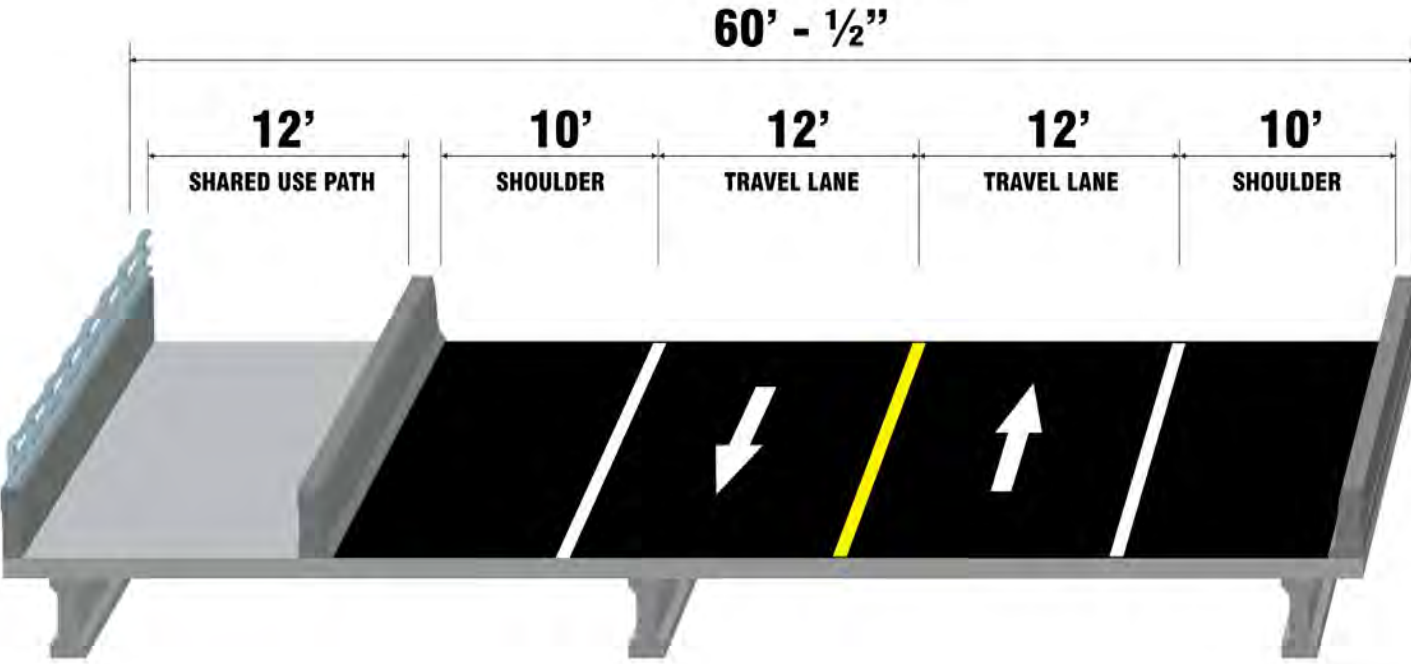
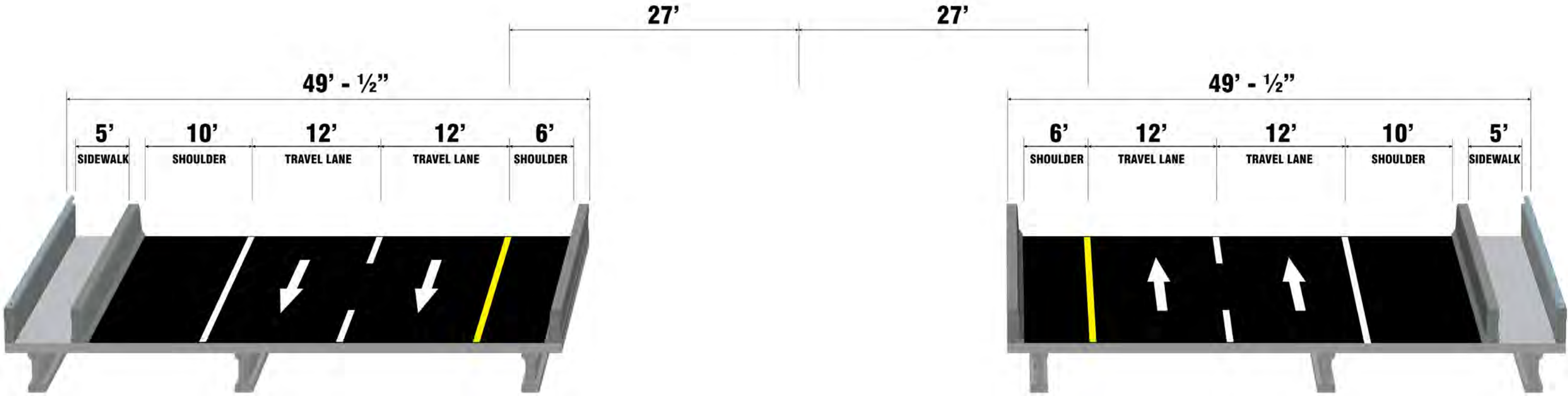
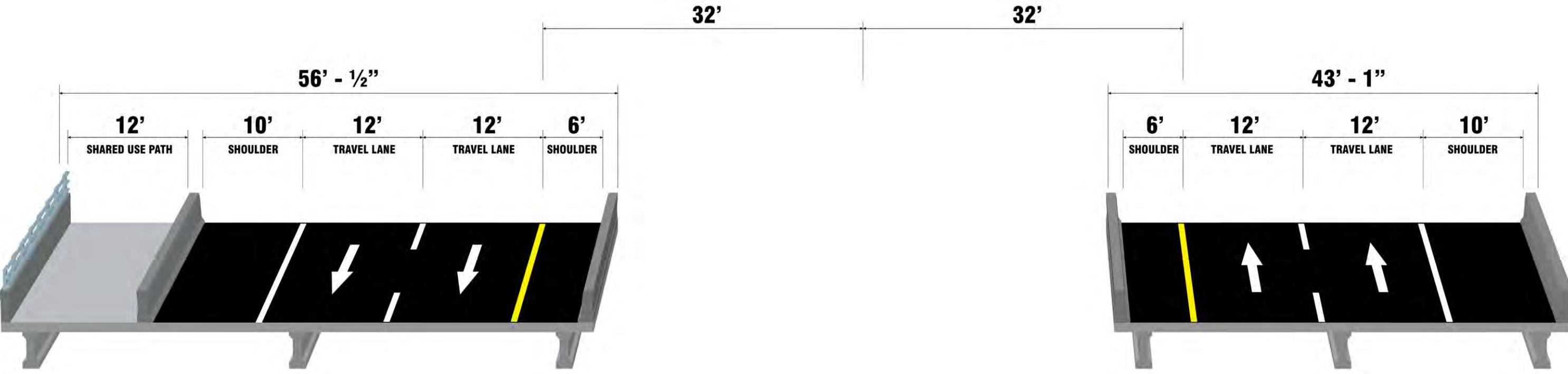


Figure 2-13: Proposed Ultimate Bridge Typical Sections
Ultimate Urban Bridge Typical



Ultimate Rural Bridge Typical



2.3.5.3 Alternative Alignment Segments

The development of alternative alignments was an iterative process beginning with the development of conceptual alignments utilizing the aforementioned engineering criteria and the previously obtained desktop review of the study area's resources. The conceptual alignments were then field surveyed to determine involvement with sensitive resources not noted in the desktop review. Based on the field analysis, the alignments were modified to avoid and/or minimize impacts to sensitive resources. As a result, in some cases, the modified alignments fell outside of the original alternative corridor boundaries.

An alternative alignment was developed within each of the recommended corridors. Because of the significant overlap between the five alternative corridors, and because of the presence of several minor deviations between them, the alignments were broken down into smaller segments for comparative analysis. This allowed for the comparative evaluation of similar segments with the goal of identifying those segments having the least impacts. Those segments having the least impacts were selected for inclusion in the alternative alignment.

Across the five alternative alignments, a total of 42 segments (**Figure 2-14**) were identified, though several of these segments are small and exist only to accommodate turning movements in the alignments. For the sake of simplicity, these smaller segments were analyzed as a part of larger segments rather than individually.

There are also some segments that were not evaluated. These segments were initially designed to accommodate the possibility that the through movement of the Gulf Coast Parkway would be directly to US 231. However, the traffic analysis completed for this project determined that the through movement would be to US 98 (and not to US 231), since the majority of the trip destinations are to Panama City via US 98 (Tyndall Parkway). Therefore, these segments were designated UNUSED and are no longer considered for further evaluation.

Table 2-10 provides a description of each of the segments and identifies which of the alternative alignment(s) utilize the segment. All segments are assumed to use a rural typical section unless otherwise noted in the description.

Figure 2-14: Gulf Coast Parkway Alternative Alignment Segments



Table 2-10: Description of Gulf Coast Parkway Alternative Alignment Segments

Segment	Description	Part of Alternatives
1	Begins at US 98 and CR 386 and heads north mostly along existing CR 386 utilizing the urban typical section up to North 15 th Street. From there, it transitions to a rural typical section and continues north along existing CR 386 for approximately 3 miles.	8, 14, 15
2	Begins at US 98 and CR 386 and heads north mostly along existing CR 386 utilizing the urban typical section up to North 15 th Street. From there, it transitions to a rural typical section and continues north along existing CR 386 for approximately 0.5 mile and then veers on new alignment to the northwest. It turns to the north for approximately 2.5 miles and then bridges over East Bay. The segment comes back down on Allanton Point and then follows northerly mostly along existing Allanton/Old Allanton Road until it reaches SR 22.	17, 19
3	Begins at the end of Segment 1. Heads north on new alignment and bridges over Wetappo Creek. Heads northeast and then north on new alignment for approximately 3.0 miles. Segments 3 and 4 will be directly compared to one another.	8, 14, 15
4	Begins at the end of Segment 1. Continues east along existing CR 386 over the Overstreet Bridge and turns north on new alignment, bridging over Wetappo creek. Continues north on new alignment for approximately 2.75 miles. Segments 3 and 4 will be directly compared to one another.	8, 14, 15
5	Part of Segment 9. Represents the turning movement that would be necessary to connect Segment 4 to Segment 9.	8, 14, 15
6	Part of Segment 9. Represents the turning movement that would be necessary to connect Segment 3 to Segment 9.	8, 14, 15
7	Part of Segment 10. Represents the turning movement that would be necessary to connect Segment 4 to Segment 10.	8, 14, 15
8	Part of Segment 10. Represents the turning movement that would be necessary to connect Segment 3 to Segment 10.	8, 14, 15
9	Begins at the end of Segments 3/4. Heads northwest on new alignment for approximately 6.5 miles until it comes to an intersection with existing SR 22. Segments 9 and 10 will be directly compared to one another.	8, 14, 15
10	Begins at the end of Segments 3/4. Heads north and then turns to the west on new alignment for total distance of approximately 5.5 miles until it comes to an intersection with existing SR 22. Segments 9 and 10 will be directly compared to one another.	8, 14, 15
11	Begins at the end of Segment 9. Represents the turning movement that would be necessary to connect Segment 9 to existing SR 22 and then travels west along SR 22 for approximately 2.0 miles to connect with Segment 15.	8, 14
12	Part of Segment 10. Represents the turning movement that would be necessary to connect Segment 10 to Segment 40.	15
13	Part of Segment 9. Represents the turning movement that would be necessary to connect Segment 9 to Segment 40.	15
14	Begins at the end of Segment 10. Travels west along existing SR 22 for approximately 2.5 miles to connect with Segments 15/30.	8, 14, 15
15	Begins at the end of Segments 11/14. Travels west along existing SR 22 for approximately 4.0 miles and then turns northwest and then west on new alignment for a distance of 3.0 miles.	8, 14, 15
16	Begins at the end of Segment 2. Travels north then west on new alignment for approximately 3.3 miles.	17, 19
17	Begins at the end of Segment 15. New alignment that represents the turning movement necessary to connect Segment 15 to Segment 21.	8, 14, 15
18	Begins at the end of Segment 16. New alignment that represents the turning movement necessary to connect Segment 16 to Segment 21.	17, 19
19	UNUSED Segment. Represented the turning movements necessary to make the thru traffic of the Gulf Coast Parkway to go to US 231 instead of US 98.	N/A
20	UNUSED Segment. Represented the turning movements necessary to make the thru traffic of the Gulf Coast Parkway to go to US 231 instead of US 98.	N/A
21	Begins at the end of Segments 17/18. Travels west on new alignment for approximately 2.0 miles to connect at the intersection with Star Avenue about 0.3 mile south of Tram Road.	8, 14, 15, 17, 19
22	UNUSED Segment. Represented the turning movements necessary to make the thru traffic of the Gulf Coast Parkway to go to US 231 instead of US 98.	N/A

Table 2-10: Description of the Gulf Coast Parkway Alignment Segments, cont.

23	UNUSED Segment. Represented the turning movements necessary to make the thru traffic of the Gulf Coast Parkway to go to US 231 instead of US 98.	N/A
24	UNUSED Segment. Represented the turning movements necessary to make the thru traffic of the Gulf Coast Parkway to go to US 231 instead of US 98.	N/A
25	Begins at the end of Segment 21 and uses an urban typical section. Travels west on new alignment for approximately 0.7 mile until it meets existing Tram Road. Follows along existing Tram Road for approximately 0.5 mile and then turns to the west on new alignment to create a new intersection with US 98 (Tyndall Parkway).	8, 14, 15, 17, 19
26	Begins at the end of Segment 21 and the beginning of Segment 25, and uses an urban typical section. Travels north along existing Star Avenue until the intersection with Nehi Road, approximately 2.2 miles.	8, 17
27	Begins at the end of Segment 26 and uses an urban typical section. Follows mostly along Nehi Road to the northwest from its southern intersection with Star Avenue to a new intersection with US 231. Segments 27 and 28 will be directly compared to one another.	8, 17
28	Begins at the end of Segment 26 and uses an urban typical section. Continues north along existing Star Avenue until its intersection with US 231. Segments 27 and 28 will be directly compared to one another.	8, 17
29	Begins at the end of Segment 2. Travels north on new alignment for approximately 3.2 miles.	19
30	Begins at the end of Segments 11/14. Leaves existing SR 22 and travels northwest on new alignment for approximately 4.5 miles.	14
31	Part of Segment 36. Represents the turning movement that would be necessary to connect Segment 30 to Segment 36.	14
32	Part of Segment 35. Represents the turning movement that would be necessary to connect Segment 30 to Segment 35.	14
33	Part of Segment 35. Represents the turning movement that would be necessary to connect Segment 29 to Segment 35.	19
34	Part of Segment 36. Represents the turning movement that would be necessary to connect Segment 29 to Segment 36.	19
35	Begins at the end of Segments 29/30. Travels northwest then north on new alignment for approximately 3.0 miles. Segments 35 and 36 will be directly compared to one another.	14, 19
36	Begins at the end of Segments 29/30. Travels north then northwest on new alignment for approximately 3.0 miles. Segments 35 and 36 will be directly compared to one another.	14, 19
37	Begins at the end of Segments 35/36. Travels northwest on new alignment for approximately 1.2 miles.	14, 19
38	Begins at the end of Segment 37 and partly uses an urban typical section. Travels west on new alignment, just to the south of the Port of Panama City Intermodal Distribution Center (IDC) Development Plan and Conservation Boundary, then to the northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231. Segments 38 and 39 will be directly compared to one another.	14, 19
39	Begins at the end of Segment 37 and partly uses an urban typical section. Travels northwest and then west on new alignment, traveling through the Port of Panama City IDC Development Plan and Conservation Boundary, then to the northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231. Segments 38 and 39 will be directly compared to one another.	14, 19
40	Begins at the end of Segments 9/10. Travels north and then northwest on new alignment for approximately 9.75 miles.	15
41	Begins at the end of Segment 40 and partly uses an urban typical section. Travels northwest on new alignment for approximately 4.5 miles until it comes to an intersection with US 231 near Camp Flowers Road.	15
42	Begins at the end of Segment 40 and partly uses an urban typical section. Travels northwest on new alignment for approximately 4.5 miles until it comes to an intersection with US 231 near Camp Flowers Road.	15

Note: Highlighted segments were eliminated due to all alternatives utilizing north and west alignments.

Table 2-11 identifies the segments comprising each alternative alignment. From this table it can be seen that several of the alternative alignments share the same segments. Segments shown in bold and put within parentheses have been directly compared against each other. The alternative alignments that are ultimately considered for the build alternatives will be comprised of only one of each of these [directly compared] segments; the other segment will be eliminated.

Table 2-11: Gulf Coast Parkway Alternative Alignments by Segment

Alternative	Segments
8	1, (3 or 4) , (9 or 10) , 15, 17, 21, 25, 26, (27 or 28)
14	1, (3 or 4) , (9 or 10) , 15, 17, 21, 25, 30, (35 or 36) , 37, (38 or 39)
15	1, (3 or 4) , (9 or 10) , 11, 15, 17, 21, 25, 40, (41 or 42)
17	2, 16, 18, 21, 25, 26, (27 or 28)
19	2, 16, 18, 21, 25, 29, (35 or 36) , 37, (38 or 39)

2.3.5.4 Preliminary Screening of Alignment Segments

The methodology for evaluating the alternative alignment segments included:

- The use of field based data in combination with field verified Geographic Information System (GIS) data for social, cultural, and natural impacts
- Cost estimations
- Summary of public, local government, non-governmental organizations, and agency comments.

The ability of the segment to best contribute to the project's purpose and need, as well as the ability to avoid and/or minimize impacts was given primary consideration when directly comparing the segments to one another. Comments received from the public, local governments, non-governmental agencies, and cooperating/advisory agencies were then considered. In any situation where a comment supported a segment that did not best avoid or minimize impacts, further evaluation was conducted. In most situations, comments received were in support of the segment having the least impact. Finally, if there was little to no difference between the impacts of two segments, and there was no comment in support of one segment over the other, the least expensive option was selected. **Table 2-12** summarizes the identification of the segments that were recommended for further study based on the comparative analysis of the segments. **Appendix B (Segment Pairs Analysis Documentation)** contains the tables showing the results of the detailed analysis of each direct pair comparisons.

Table 2-12: Results of Segment Pair Analysis

Segment Pair	Segment Selected	Basis for Selection
3 and 4	3	The greater length of Segment 4 makes it a less desirable option for the avoidance and minimization of impacts. The amount of total new alignment created by Segment 4 is nearly identical to that of Segment 3, as a result the natural environmental impacts are not entirely lessened by the fact that a portion of Segment 4 travels along existing roadway. While Segment 4 performs better at avoiding species and habitat impacts, it creates greater wetlands impacts, has more physical environmental impacts, costs approximately \$30 million more, and is not as favorable an option to the citizens based on public comment. Additionally, Segment 4 would perform as well in meeting the hurricane evacuation criteria for the project's purpose and need. It is possible that the additional species and habitat impacts created by Segment 3 could be mitigated in a manner that reduces the magnitude of those impacts.
9 and 10	10	As there are no social impacts, no public preference, and each segment equally contributes to purpose and need, the major consideration for these segments are impacts to the natural environment. Segment 10 better avoids wetlands impacts and based on field surveys does an equal job in avoiding species and habitat impacts.
27 and 28	27	Segment 27 provides a direct connection to future planned projects identified in the Bay County Long Range Transportation Plan (LRTP) and therefore is better suited to meet the purpose and need criteria. Additionally the existing intersection operation at US 231 and Star Ave., where segment 28 terminates, is very poor in terms of both safety and traffic operations. Creating a new intersection design at Nehi Rd. and US 231 will provide improved overall traffic operations to existing congested roads, which is also a purpose and need criteria for the project. Segment 27 has more natural environment impacts to habitat, but less impact on the social and physical environment. There was a strong public preference for Segment 27. Costs for Segment 27 were 50 percent less.
35 and 36	35	Segment 35 impacted one archaeological site that has been determined to not be eligible for the National Register of Historic Places. Otherwise, Segment 36 had greater impacts in most categories, including impacts to the field-verified wetlands, floodplains, species hotspots, and National Hydrography Dataset (NHD) waterbodies.
38 and 39	38	Segments 38 and 39 have similar impacts. However, Segment 39 would interfere with a conservation easement for the Bay County IDC; therefore, Segment 39 was eliminated.
41 and 42	41	Although Segment 41 has more impacts to wetlands, Segment 42 has greater impacts to floodplains and field surveyed species and requires relocations. The wetland impacts may be mitigated in a manner that reduces the magnitude of those impacts;

Table 2-13 summarizes the results of the Segment Pair Analysis and identifies the segments which comprise the project's five build alternatives.

Table 2-13: Gulf Coast Parkway Build Alternatives by Segment

Alternative	Segments
8	1, 3, 10, 15, 17, 21, 25, 26, 27
14	1, 3, 10, 15, 17, 21, 25, 30, 35, 37, 38
15	1, 3, 10, 11, 15, 17, 21, 25, 40, 41
17	2, 16, 18, 21, 25, 26, 27
19	2, 16, 18, 21, 25, 29, 35, 37, 38

2.4 ALTERNATIVES CONSIDERED

Alternatives development is the process whereby alternatives are developed to meet the project's purpose and need. The initial range of alternatives considered included:

2.4.1 No-Build Alternative

The No-Build Alternative would leave the existing roadway network in its current configuration. No capacity, intersection, pedestrian, bicycle, or safety improvements would be implemented.

The No-Build Alternative has a number of positive attributes. No expenditure of public funds for design, right-of-way acquisition, or construction would be required. Traffic would not be disrupted due to construction, thus avoiding inconveniences to local businesses and residences. There would be no impacts to wetlands or threatened or endangered species. With the No-Build Alternative, there is no risk of contamination. No costs would be incurred due to utility relocation. There would be no direct or indirect impacts to the socioeconomic characteristics, community cohesion, or system linkage of the area.

2.4.2 Transportation System Management (TSM) Alternatives

TSM alternatives include those activities that maximize the efficiency of the existing system. Possible options include ride-sharing, fringe parking, the addition of turn lanes, traffic signal timing optimization, and access management measures.

2.4.3 Multi-modal Alternatives

Multi-modal solutions to substandard roadways are generally only effective within highly urbanized or constrained corridors. Specific examples of multi-modal alternatives are mass transit systems, such as bus or rail options.

2.4.4 Build Alternatives

Based on the results of the segment evaluation, there are five build alternatives for consideration. These five alignments, Alternatives 8, 14, 15, 17, and 19, are shown in **Figures 2-15A through 2-15F** and are described in **Table 2-14**.

It should be noted, that Alignment Alternatives 14, 15, and 19 differ from Corridor Alternatives 14, 15, and 19 in that the Alignment Alternatives also utilize Tram Road to connect to US 98 (Tyndall Parkway) instead of SR 22. When traffic was analyzed for SR 22 it was determined that 37,100 vehicles (AADT) would use SR 22 (assumed to be four lanes from Star avenue to US 98) in 2035 at a LOS F. While Alternatives 8 and 17, which utilize Tram Road to connect to US 98 (Tyndall Parkway) would have an AADT 33,037 in 2035.

To provide an acceptable LOS, SR 22 would have to be widened to six lanes requiring the relocation of 22 residences, 18 commercial properties, and 3 churches. Because each viable alternative needs to equally meet the project's purpose to fully and fairly account for each alternative's impacts and benefits, it was apparent that the option of utilizing SR 22 instead of Tram Road would cause greater costs and impacts than utilizing Tram Road. Therefore, Alternative Alignments 14, 15, and 19 were revised to utilize the Tram Road option for connecting to US 98 (Tyndall Parkway).

Figure 2-15A: Gulf Coast Parkway Build Alternatives



Figure 2-15B Gulf Coast Parkway Build Alternative Alignment 8



Figure 2-15C Gulf Coast Parkway Build Alternative Alignment 14



Figure 2-15D Gulf Coast Parkway Build Alternative Alignment 15



Figure 2-15E Gulf Coast Parkway Build Alternative Alignment 17



Figure 2-15F Gulf Coast Parkway Build Alternative Alignment 19



Table 2-14: Gulf Coast Parkway Alignment Alternatives Descriptions

Alternative	Segments	Description
8	1, 3, 8, 10, 14, 15, 17, 21, 25, 26, 27	<p>From the intersection of US 98 and CR 386, Alternative 8 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it deviates from CR 386. Proceeding north on new alignment for a total of approximately 8.5 miles, Alternative 8 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, the alignment travels west along existing SR 22 for approximately 6.5 miles where it turns northwest and then west on new alignment for approximately 5.0 miles to intersect Star Avenue about 0.3 mile south of Tram Road. From Star Avenue, Alternative 8 transitions to an urban typical section which is carried through to both termini locations. The alternative's through movement continues west on new alignment for approximately 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Additionally, the less dominant leg of Alternative 8 proceeds north along existing Star Ave. approximately 2.2 miles until the intersection with Nehi Road where it follows mostly along Nehi Road to the northwest to end at a new intersection with US 231 in the vicinity of the existing CR 2321/US 231 intersection.</p>
14	1, 3, 8, 10, 14, 15, 17, 21, 25, 30, 31, 36, 37, 38	<p>From the intersection of US 98 and CR 386, Alternative 14 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it then deviates from CR 386 alignment. Proceeding north on new alignment for a total of approximately 8.5 miles, Alternative 14 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, the alignment travels west along existing SR 22 for approximately 2.5 miles where it splits. To connect with US 98 (Tyndall Parkway), the alignment continues west on SR 22 for approximately 4.0 miles where it turns northwest and then west to intersect Star Ave. about 0.3 mile south of Tram Road. From Star Ave., Alternative 14 transitions to an urban typical section and continues west 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). To connect with US 231, Alternative 14 after splitting from SR 22 proceeds northwest on new alignment for approximately 8.0 miles where it turns to the west and continuing on new alignment, travels south of and parallel to the Bay County IDC and Conservation Boundary. It then transitions to an urban typical section and proceeds northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231.</p>
15	1, 3, 8, 10, 12, 14, 15, 17, 21, 25, 40, 41	<p>From the intersection of US 98 and CR 386, Alternative 15 follows CR 386 north utilizing the urban typical section to North 15th Street. From there it transitions to a rural typical section, continuing north along existing CR 386 for approximately 3 miles where it then deviates from the CR 386 alignment. Proceeding north, on new alignment for a total of approximately 8.5 miles, Alternative 15 crosses the ICWW and Wetappo Creek on a new high-level bridge, and continues north to intersect SR 22 approximately 11.4 miles east of Callaway. From there, Alignment 15 has two options depending on the desired terminus. To connect with US 98 (Tyndall Parkway), Alternative 15 travels west along existing SR 22 for approximately 6.5 miles where it turns northwest and then west on new alignment for approximately 5.0 miles to intersect Star Ave. about 0.3 miles south of Tram Road. From Star Ave., Alternative 15 transitions to an urban typical section and continues west on new alignment for approximately 0.7 mile to merge with and follow existing Tram Road for approximately 0.5 mile. It then turns west and continues on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Alternately, from SR 22, Alternative 15 continues across SR 22, traveling north then northwest on new alignment for approximately 14.0 miles, transitioning back to an urban typical section just before it ends at a new intersection with US 231 near Camp Flowers Road.</p>

Alternative	Segments	Description
17	2, 16, 18, 21, 25, 26, 27	From the intersection of US 98 and CR 386, Alternative 17 follows CR 386 utilizing the urban typical section to North 15 th Street. From there, it transitions to a rural typical section and continues north along existing CR 386 for approximately 0.5 mile where it then turns west and travels on new alignment for 3.0 miles. The alignment veers to the north for approximately 2.5 miles and then utilizing a new high level bridge crosses over East Bay and the ICWW. The alignment returns to grade on Allanton Point and continues to the north mostly along existing Allanton/Old Allanton Road until it reaches SR 22. After crossing SR 22, the road would travel north then west on new alignment for approximately 5.3 miles to connect at an intersection with Star Ave. about 0.3 mile south of Tram Road. From the intersection at Star Ave., Alternative 17 transitions to an urban typical section and has two termini locations. The alternative's through movement continues west on new alignment for approximately 0.7 mile until it merges with existing Tram Road. From there it travels along existing Tram Road for approximately 0.5 mile and then turns to the west on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Additionally, the alternative travels north along existing Star Ave. approximately 2.2 miles until the intersection with Nehi Road where it follows mostly along Nehi Road to the northwest to end at a new intersection with US 231.
19	2, 16, 18, 21, 25, 29, 34, 36, 37 38	From the intersection of US 98 and CR 386, Alternative 19 follows CR 386 utilizing the urban typical section up to North 15 th Street. From there it transitions to a rural typical section and continues north along existing CR 386 for approximately 0.5 mile where it then turns west and travels on new alignment for approximately 3.0 miles. The alignment veers to the north for approximately 2.5 miles and then, utilizing a new high level bridge crosses over East Bay and the ICWW. The alignment returns to grade on Allanton Point and continues to the north mostly along existing Allanton/Old Allanton Road until it reaches SR 22. After crossing SR 22, the road has two options. One would turn west to travel on new alignment for approximately 5.0 miles to intersect with Star Ave. about 0.3 mile south of Tram Road. From the intersection at Star Ave., Alternative 19 transitions to an urban typical section, continues west 0.7 mile to merge with and follow Tram Road for approximately 0.5 mile and then turns to the west on new alignment to end at a new intersection with US 98 (Tyndall Parkway). Alternately, Alignment 19 would continue north on new alignment for approximately 6.2 miles where it turns to the west, continuing on new alignment along the south property line of the Port of Panama City IDC and its Conservation Boundary. It then transitions to an urban typical section and turns to the northwest to intersect with the planned entrance roadway for the IDC which intersects with US 231.

2.4.5 Avoidance and Minimization of Impacts

The FHWA and FDOT attempt to avoid and minimize the potential for adverse impacts on environmentally sensitive resources as much as practical throughout the project's development. This effort has been coordinated with the resource agencies beginning with the publication of the project in the EST. Coordination efforts since ETDM have included the development of Issue Action Plans with agencies to establish procedures for conducting the studies to resolve agency concerns, input from an agency advisory committee, field reviews with the agencies, and document reviews by the agencies. This agency coordination is an on-going process that will continue after the selection of a preferred alternative and the more precise identification of impacts leading to the development avoidance, minimization and mitigation measures.

At the PD&E stage of project development there are two types of avoidance and minimization efforts. There is the avoidance and minimization that occurs during the development and analysis of alternatives and then there are the engineering refinements that occur after identification of a recommended alternative.

Avoidance and minimization during the development and analysis of alternatives is an iterative effort that uses the best available information to develop and refine the alternatives. This process begins with a land suitability mapping tool during the development of potential corridors. After the corridor analysis stage, alternative alignments are developed within the viable corridors, again using the best available information to minimize involvement with resources. Field studies of the alternatives are conducted to verify site conditions and inform adjustments to further reduce potential adverse effects. As adjustments to alternative alignments are made, the alternatives are reevaluated to determine if the changes create adverse effects on other resources. This adjustment and re-evaluation process continues until reasonable alternatives can be identified.

Once the reasonable alternatives have been identified, the detailed analysis of impacts is conducted to present a comparison of the alternatives to the public. The results of the public involvement and the analysis of alternatives are considered by the lead agency in identifying a recommended alternative. Once a recommended alternative is identified, additional engineering refinements are used to further avoid and/or minimize adverse project effects. An example of an engineering refinement that can be utilized to reduce impacts is a reduction in the project's footprint. A reduction in the project's footprint may be achieved by reducing the median width or steepening side slopes. These measures will be identified in the Final EIS after preliminary design of the recommended alternative.

Any adverse effects that cannot be avoided or minimized will require mitigation measures to offset the adverse effects. During the PD&E phase, these impacts are identified and conceptual mitigation measures are developed with the agencies and committed to in the environmental document. FDOT has a commitment compliance process to keep track of any commitments made in PD&E to ensure they are incorporated into the project at the appropriate stage (**see Section 4.3.21**).

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED

Not all of the alternatives described in Section 2.5 meet the project's purpose and need. The No Build, TSM, and Multi-modal alternatives would not meet the project's purpose and need. Alternatives that do not meet purpose and need have been eliminated from further consideration with the exception of the No Build Alternative which remains a viable alternative for additional study up to the selection of the preferred alternative. A discussion of how each of the above referenced alternatives fails to meet purpose and need follows.

2.5.1 No-Build Alternative

The No-Build Alternative, which would simply leave the existing roadway network in its current configuration, fails to fulfill the project's purpose and need, or meet the goals of any of the regional planning documents. The lack of a new roadway would not:

- Help reduce travel time for residents from southeast Bay and coastal Gulf Counties to employment centers in Panama City.
- Provide a more direct route between US 98 in Gulf County and freight transfer facilities on US 231 in Bay County.

- Improve access to Enterprise Zones in Gulf County.
- Provide a direct route for tourists traveling US 231 to reach vacation and recreation areas in south Gulf County.
- Provide a more direct route from south Gulf County to the new Northwest Florida Beaches International Airport (NWFBIA).
- Help ease traffic congestion on the surrounding roadway network, including US 98 (Tyndall Parkway) through Bay County.
- Provide an alternative route to US 98 (Tyndall Parkway) in Bay County to US 98 in Gulf County that does not travel through Tyndall AFB.
- Provide an alternative emergency and hurricane evacuation route.

The No-Build Alternative is also inconsistent with the plans and goals of the Bay County Transportation Planning Organization (TPO). It fails to comply with the LRTP as established by the TPO.

However, as stated above, the No-Build Alternative will remain a viable alternative throughout the entire length of the study along with the Build Alternatives.

2.5.2 Transportation System Management (TSM) Alternatives

While TSM options will be incorporated into the proposed project to the greatest extent possible, TSM improvements alone would provide little to no contributions to meeting the project's purpose and need.

Much like the No-Build Alternative, the TSM alternative fails to fulfill the needs and goals of the Bay and Gulf County plans. For all of these reasons, no TSM alternative was considered as a reasonable solution to alleviate the existing and expected deficiencies within the Gulf Coast Parkway corridor.

2.5.3 Multi-modal Alternatives

Multi-modal solutions to substandard roadways are generally only effective within highly urbanized or constrained corridors. Multi-modal options usually serve to move people and since the project study area is mostly rural, there is insufficient population to support multi-modal facilities. Further, multi-modal alternatives do not address the need to improve the economic climate within the study area. Further, multi-modal facilities are inconsistent with the needs and goals of the Bay County *2035 LRTP* and the Bay and Gulf County *Comprehensive Plans*. For all of these reasons, multi-modal alternative was not considered as a reasonable solution to alleviate the existing and expected deficiencies within the Gulf Coast Parkway corridor.

2.6 ALTERNATIVES CARRIED FOWARD

As stated above, the No Build Alternative while not meeting the purpose and need for the project has been retained for further study through the public hearing and final selection process. All Build Alternatives are also being carried forward as all Build Alternatives would meet the project's purpose and need requirements, albeit to varying degrees as discussed in the evaluation of alternatives.

2.7 EVALUATION OF ALTERNATIVES

The evaluation of the project alternatives involves several aspects including the evaluation of each alternative based on:

- Traffic demands and safety.
- Involvement with the social, cultural, and natural environment in the project area.
- Estimation of the costs associated with the right-of-way acquisition and construction of the alternative.
- Consideration of input from the public, local government, non-governmental organizations, and resource agencies.

The next aspect of the process is the comparative evaluation of the alternatives. The following subsections discuss each of these aspects, provide a description of the criteria and sources of information used, and describe the comparative evaluation methodology.

2.7.1 Design Traffic

The study team performed a traffic analysis to evaluate the operation of existing roads within the study area; to develop future traffic demand for the study period; and to determine what effects the project alternatives (including the No-Build Alternative) would have on roads in the study area. The traffic analysis also contributed to the determination of the typical sections for the proposed Build alternatives.

The adopted year for existing conditions was 2011. FDOT guidelines (*Project Traffic Forecasting Handbook*⁶, FDOT - 2009) require a 20-year period for the design year forecast after the opening year. Therefore, with an opening year of 2015, the design year is then 2035, and an interim year of 2025 was identified as the mid-point between opening and design years. In addition to projecting future traffic demand, detailed operational analyses were performed on existing intersections within the study area for 2012, the existing year, and the proposed intersections for the design year. The following presents a summary of the findings from the *Traffic Report – Gulf Coast Parkway*⁷, plus some final discussion on the Gulf Coast Parkway traffic impacts on adjacent roadway segments within the study area. Refer to the Traffic Report for a detailed discussion of the traffic analysis methodology.

2.7.1.1 Existing Traffic Conditions

Using the average annual traffic growth rate (2.98%) from FDOT historical counts, year 2011 traffic volumes were escalated to reflect year 2012 conditions.

2.7.1.2 Existing and Future Projected Traffic

Traffic patterns from the past 10 years were utilized to forecast future traffic volumes, which include traffic growth from existing developments and through traffic. Natural population growth and land use development are already captured by the growth rate calculations. Large scale developments or Development of Regional Impact (DRIs) were considered separately because they have a significant impact on the region's transportation system.

Therefore, existing year traffic volumes and projections for the future (using growth rates derived from regression analysis) were considered to be the "background" traffic. This background traffic was checked against known minor land use development to make sure traffic growth was reasonable, based on information provided by Bay and Gulf Counties, and other local governments within the study area.

DRI that could create significant impact on the transportation network and were considered in the projection of future traffic included: WindMark, located on US 98 west of Port St. Joe; the West Bay Detailed Specific Area Plan (DSAP) north of West Bay; and the relocation of the Panama City airport to a site north of CR 388.

Phase I of WindMark was scheduled for completion in 2009 and Phase II for completion in 2014. Therefore, trips associated with Phase I were applied to the Gulf Coast Parkway's opening year (2015) and the full traffic from this DRI was applied to the interim and design years. As of the date of this report, the WindMark development had not reached build out status.

The West Bay DSAP is a conceptual plan addressing future mixed-use developments and the new NWFBIA. Per the West Bay DSAP report, about 8% of the expected traffic to be generated will be affecting the transportation system by the Gulf Coast Parkway's opening year of 2015, 71% would occur by the interim year (2025), and the full amount in Gulf Coast Parkway's design year of 2035.

Table 2-15a through 2-15e show the projected AADT traffic volumes for the existing and future years, including the background and DRI traffic, for all alternatives.

Table 2-15a: Future Traffic (Including DRI Traffic): Alternative 8

Roadway	Segment	Year 2011 AADT	Background + DRI Traffic		
			Year 2012 AADT	Year 2025 AADT	Year 2035 AADT
Segment 1					
US 98	East of CR 386	10,000	12,980	15,852	19,165
US 98	West of CR 386	9,200	5,000	6,100	7,500
CR 386	North of US 98	5,200	13,214	16,222	19,635
CR 386	US 98 - 15th Street	1,700	9,214	11,322	13,635
CR 386	15th Street - Gulf Coast Parkway(GCP) Segment 3	1,900	9,414	11,622	13,935
CR 386	GCP Segment 3 - SR 71	1,500	1,700	2,100	2,600
GCP, Seg. 3	North of Overstreet (CR 386, Gulf Co.)	0	7,214	8,922	10,735
CR 386	West of GCP, Segment 3 (Gulf Co.)	1,900	9,414	11,622	13,935
CR 386	East of GCP, Segment 3 (Gulf Co.)	1,500	1,700	2,100	2,600
Segments 3, 8, 10, 14, 15					
GCP, Seg 3,8,10	CR 386 - SR 22	0	7,314	8,922	10,735
GCP, Seg 3,8,10	South of SR 22	0	7,314	8,922	10,735
SR 22	East of GCP, Segment 10	2,800	3,814	4,664	5,751
SR 22	West of GCP, Segment 10	3,400	11,828	14,486	17,486
SR 22	GCP, Segment 10 - CR 2297 (Allanton Rd.)	4,300	12,828	15,686	18,986
SR 22	CR 2297 –GCP, Segment 14,15	10,500	20,028	24,386	29,586
SR 22	East of GCP, Segment 15	10,500	20,028	24,386	29,586
SR 22	West of GCP, Segment 15	10,500	11,242	13,672	16,659
GCP, Seg. 15,17,21	North of SR 22	0	9,728	11,886	14,386
Segments 17,21					
GCP, Seg. 17,21	SR 22 - Tram Road	0	9,728	11,886	14,386
GCP, Seg. 17,21	East of Star Ave	0	9,728	11,886	14,386
Star Ave	South of GCP (South of Tram Rd.)	7,400	6,788	8,309	10,036
GCP, Seg. 25 (Tram Rd)	West of Star Ave	0	8,414	10,243	12,443
Star Ave	North of Tram Rd.	8,300	10,814	13,243	16,143
Segment 25					
Tram Road	US 98 - Star Ave	0	8,414	10,243	12,443
Tram Road	East of US 98	0	8,414	10,243	12,443
US 98	South of Tram Rd	35,850	29,800	29,500	28,800
US 98	North of Tram Rd.	31,600	30,500	31,100	31,700
14th Street	West of Tyndall Pkwy (US 98)	700	800	1,000	1,200
Segments 26,27					
GCP, Seg. 26	Tram Rd - Nehi Rd.	8,300	10,814	13,243	16,143
GCP, Seg 26	South of Nehi-Star Ave intersection	8,300	10,814	13,243	16,143
Star Ave	North of GCP, Segment 26,27	0	4,088	4,909	6,036
GCP, Seg 27	Northwest of Nehi-Star Ave intersection	0	6,814	8,443	10,243
GCP, Seg 27	Star Ave - US 231	0	6,814	8,443	10,243
US 231	West, South west of GCP, Seg. 27	25,800	30,300	36,971	45,085
US 231	East, Northeast of GCP, Seg. 27	30,400	36,262	44,296	54,011
GCP, Seg. 27	South of US 231	0	6,814	8,443	10,243

Sources: Traffic from FDOT 2011 Florida Traffic Information DVD

Notes:

Shaded cells are main intersection traffic volumes

Traffic growth rate on US 98 within Panama City is reduced to the annual trend rate projected for this specific facility since it is already very congested

Table 2-15b: Future Traffic (Including DRI Traffic): Alternative 14

Roadway	Segment	Year 2011 AADT	Background + DRI Traffic		
			Year 2012 AADT	Year 2025 AADT	Year 2035 AADT
Segment 1					
US 98	East of CR 386	10,000	12,980	15,852	19,165
US 98	West of CR 386	9,200	5,000	6,100	7,500
CR 386	North of US 98	5,200	13,214	16,222	19,635
CR 386	US 98 - 15th Street	1,700	9,214	11,322	13,635
CR 386	15th Street - Gulf Coast Parkway (GCP) Segment 3	1,900	9,414	11,622	13,935
CR 386	GCP Segment 3 - SR 71	1,500	1,700	2,100	2,600
GCP, Seg. 2	North of Overstreet (CR 386, Gulf Co.)	0	7,314	8,922	10,735
CR 386	West of GCP, Segment 2 (Gulf Co.)	1,900	9,514	11,622	13,935
CR 386	East of GCP, Segment 2 (Gulf Co.)	1,500	1,700	2,100	2,600
Segments 3, 8, 10, 14, 15, 30					
GCP, Seg 3,8,10	CR 386 - SR 22	0	7,314	8,922	10,735
GCP, Seg 3,8,10	South of SR 22	0	7,314	8,922	10,735
SR 22	East of GCP, Segment 10	2,800	3,814	4,664	5,751
SR 22 - GCP Seg. 14	West of GCP, Segment 10	3,400	11,828	14,486	17,486
SR 22 - GCP Seg. 14	East of GCP, Segment 30	3,400	11,828	14,486	17,486
Segment 30					
GCP, Seg. 30	SR 22 - US 231	7,500	1,010	1,358	1,489
GCP, Seg 30.	South of US 231	7,500	1,010	1,358	1,489
US 231	Star Ave to the east	19,200	23,404	27,852	3,369
US 231	US 231 (1,480' South of CR 388 at Youngstown)	16,300	20,654	24,254	29,473

Sources: Traffic from FDOT 2011 Florida Traffic Information DVD

Notes:

Shaded cells are main intersection traffic volumes

Traffic growth rate on US 98 within Panama City is reduced to the annual trend rate projected for this specific facility since it is already very congested

Table 2-15c: Future Traffic (Including DRI Traffic): Alternative 15

Roadway	Segment	Year 2011 AADT	Background + DRI Traffic		
			Year 2012 AADT	Year 2025 AADT	Year 2035 AADT
Segment 1					
US 98	East of CR 386	10,000	12,980	15,852	19,165
US 98	West of CR 386	9,200	5,000	6,100	7,500
CR 386	North of US 98	5,200	13,214	16,222	19,635
CR 386	US 98 - 15th Street	1,700	9,214	11,322	13,635
CR 386	15th Street - Gulf Coast Parkway (GCP) Segment 3	1,900	9,414	11,622	13,935
CR 386	GCP Segment 3 - SR 71	1,500	1,700	2,100	2,600
GCP, Seg. 3	North of Overstreet (CR 386, Gulf Co.)	0	7,214	8,922	10,735
CR 386	West of GCP, Segment 3 (Gulf Co.)	1,900	9,414	11,622	13,935
CR 386	East of GCP, Segment 3 (Gulf Co.)	1,500	1,700	2,100	2,600
Segments 3, 8, 10, 14, 15, 12, 40					
GCP, Seg 3,8,10	CR 386 - SR 22	0	7,314	8,922	10,735
GCP, Seg 3,8,10	South of SR 22	0	7,314	8,922	10,735
SR 22	East of GCP, Segment 10	2,800	3,814	4,664	5,751
SR 22	West of GCP, Segment 10	3,400	11,828	14,486	17,486
SR 22	West of GCP, Segment 15	10,500	11,242	13,672	16,659
GCP, Seg. 15,17,21	North of SR 22	0	1,010	1,358	1,489
Segment,13.40.41.42					
GCP, Seg. 13,40,41,42	SR 22 - US 231	7,500	1,010	1,358	1,489
GCP, Seg 41,42	South of US 231	7,500	1,010	1,358	1,489
US 231	Star Ave to the east	16,300	20,654	24,254	29,473
US 231	US 231 (1,480' South of CR 388 at Youngstown)	16,300	20,654	24,254	29,473

Sources: Traffic from FDOT 2011 Florida Traffic Information DVD

Notes:

Shaded cells are main intersection traffic volumes

Traffic growth rate on US 98 within Panama City is reduced to the annual trend rate projected for this specific facility since it is already very congested

Table 2-15d: Future Traffic (Including DRI Traffic): Alternative 17

Roadway	Segment	Year 2011 AADT	Background + DRI Traffic		
			Year 2012 AADT	Year 2025 AADT	Year 2035 AADT
Segment 2					
US 98	East of CR 386	10,000	12,980	15,852	19,165
US 98	West of CR 386	9,200	5,000	6,100	7,500
CR 386	North of US 98	5,200	13,214	16,222	19,635
CR 386	US 98 - 15th Street	1,700	9,214	11,322	13,635
CR 386	15th Street - Gulf Coast Parkway (GCP) Segment 2	1,900	9,414	11,622	13,935
CR 386	GCP Segment 2 - SR 71	1,500	1,700	2,100	2,600
GCP, Seg. 2	West of CR 386	0	7,214	8,922	10,735
CR 386	South of GCP, Segment 2	1,900	9,414	11,622	13,935
CR 386	North of GCP, Segment 2	1,500	1,700	2,100	2,600
Segment 16, 18, 21					
GCP, Seg. 2	CR 386 - SR 22	0	7,314	8,922	10,735
GCP, Seg. 2	South of SR 22	0	7,314	8,922	10,735
SR 22	CR 2297 - to the east	10,500	13,928	16,986	20,586
SR 22	East of GCP, Segment 2	10,500	13,928	16,986	20,586
SR 22	West of GCP, Segment 2	10,500	11,242	13,672	16,659
GCP, Seg. 16	North of SR 22	0	9,728	11,886	14,386
GCP, Seg. 16, 18, 21	SR 22 - Star Ave	0	9,728	11,886	14,386
GCP, Seg. 21	East of Star Ave	0	9,728	11,886	14,386
Star Ave	South of GCP (South of Tram Rd.)	7,400	6,788	8,309	10,036
GCP, Seg. 25 (Tram Rd)	West of Star Ave	0	8,414	10,243	12,443
Star Ave	North of Tram Rd.	8,300	9,414	11,543	14,043
Segment 25					
Tram Road	US 98 - Star Ave	0	8,414	10,243	12,443
Tram Road	East of US 98	0	8,414	10,243	12,443
US 98	South of Tram Rd	35,850	29,800	29,500	28,800
US 98	North of Tram Rd.	31,600	30,500	31,100	31,700
14th Street	West of Tyndall Pkwy (US 98)	700	800	1,000	1,200
Segment 26, 27					
Star Ave, S. of Seg. 27	Tram Rd - Seg 27	8,300	9,414	11,543	14,043
Star Ave	North of GCP, Segment 27	0	4,088	4,909	6,036
GCP, Seg 27	West of Star Ave	0	6,814	8,443	10,243
GCP, Seg 27	Star Ave - US 231	0	6,814	8,443	10,243
US 231	West, South west of GCP, Seg. 27	25,800	30,300	36,971	45,085
US 231	East, Northeast of GCP, Seg. 27	30,400	36,262	44,296	54,011
GCP, Seg. 27	South of US 231	0	6,814	8,443	10,243

Sources: Traffic from FDOT 2011 Florida Traffic Information DVD

Notes:

Shadowed cells are main intersection traffic volumes

Traffic growth rate on US 98 within Panama City is reduced to the annual trend rate projected for this specific facility since it is already very congested

Table 2-15e: Future Traffic (Including DRI Traffic): Alternative 19

Roadway	Segment	Year 2011 AADT	Background + DRI Traffic		
			Year 2012 AADT	Year 2025 AADT	Year 2035 AADT
Segment 2					
US 98	East of CR 386	10,000	12,980	15,852	19,165
US 98	West of CR 386	9,200	5,000	6,100	7,500
CR 386	North of US 98	5,200	13,214	16,222	19,635
CR 386	US 98 - 15th Street	1,700	9,214	11,322	13,635
CR 386	15th Street - Gulf Coast Parkway Segment 2	1,900	9,414	11,622	13,935
CR 386	GCP Segment 2 - SR 71	1,500	1,700	2,100	2,600
GCP, Seg. 2	West of CR 386	0	7,214	8,922	10,735
CR 386	South of GCP, Segment 2	1,900	9,414	11,622	13,935
CR 386	North of GCP, Segment 2	1,500	1,700	2,100	2,600
Segment 16, 18, 21, 29					
GCP, Seg. 2	CR 386 - SR 22	0	7,314	8,922	10,735
GCP, Seg. 2	South of SR 22	0	7,314	8,922	10,735
SR 22	CR 2297 - to the east	10,500	13,928	16,986	20,586
SR 22	East of GCP, Segment 2	10,500	13,928	16,986	20,586
SR 22	West of GCP, Segment 2	10,500	11,242	13,672	16,659
GCP, Seg. 16, 29	North of SR 22	0	9,728	11,886	14,386
GCP, Seg. 16, 29	South of GCP Seg. 16	0	9,728	11,886	14,386
GCP, Seg. 16, 18	West of GCP Seg. 29	0	9,728	11,886	14,386
GCP, Seg. 18, 21	GCP Seg 29 - Star Ave	0	9,728	11,886	14,386
GCP, Seg. 21	East of Star Ave	0			
Star Ave	South of GCP (South of Tram Rd.)	7,400	6,788	8,309	10,036
GCP, Seg. 25 (Tram Rd)	West of Star Ave	0	8,414	10,243	12,443
Star Ave	North of Tram Rd.	8,300	9,414	11,543	14,043
Segment 25					
Tram Road	US 98 - Star Ave	0	8,414	10,243	12,443
Tram Road	East of US 98	0	8,414	10,243	12,443
US 98	South of Tram Rd	35,850	29,800	29,500	28,800
US 98	North of Tram Rd.	31,600	30,500	31,100	31,700
14th Street	West of Tyndall Pkwy (US 98)	700	800	1,000	1,200

Sources: Traffic from FDOT 2011 Florida Traffic Information DVD

Notes:

Shaded cells are main intersection traffic volumes

Traffic growth rate on US 98 within Panama City is reduced to the annual trend rate projected for this specific facility since it is already very congested

2.7.2 Level of Service Analysis

LOS is a qualitative measure that describes operational conditions and provides an index to the quality of traffic flow. LOS are defined in letter designations from A to F with LOS A representing the best operating conditions, while LOS F is the worst condition.

2.7.2.1 Roadway Segment Daily Level of Service

AADT volumes and LOS of existing arterials within the study area are shown in **Table 2-16**. The Generalized Tables from the FDOT's *2009 Quality / Level of Service Handbook*⁹ were used to make the LOS determination.

The design year LOS is presented for all five alternative alignments in **Table 2-17a through 2-17e**. The determination of LOS was based on the Generalized Tables in FDOT's *2009 Quality/Level of Service Handbook* and the final typical section for the project, a four-lane divided facility. The intersection operational analysis that follows showed the need to improve the capacity on selected existing roads intersecting the Gulf Coast Parkway to avoid failure, as noted in the corresponding tables.

Table 2-16: Existing Year 2011 Roadway Segment LOS

Roadway	Segment	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2011 AADT	2011 LOS
CR 386	US 98 – 15 th St.	C	11,000	Minor Arterial	Undivided	Rural Developed	2	1,700	B
CR 386	15 th St. – N. Long St.	C	8,600	Minor Arterial	Undivided	Rural Undeveloped	2	1,900	A
CR 386	N. Long St. – SR 71	C	8,600	Minor Arterial	Undivided	Rural Undeveloped	2	1,500	A
SR 71	CR 386 – SR 22	C	11,000	Minor Arterial	Undivided	Rural developed	2	5,600	C
SR 22	West of SR 71 – Bay Co. Line	C	8,600	Minor Arterial	Undivided	Rural Undeveloped	2	2,800	B
SR 22	Bay Co. Line – Sandy Creek Rd.	C	13,100	Minor Arterial	Undivided	Transitioning to Urban	2	3,400	B
SR 22	Sandy Creek Rd. – CR 2297 (Allanton Rd.)	D	16,400	Minor Arterial	Undivided	Urban	2	4,300	B
SR 22	CR 2297 – Star Ave.	D	16,400	Minor Arterial	Undivided	Urban	2	10,500	C
SR 22	Star Ave. – US 98	D	16,400	Minor Arterial	Undivided	Urban	2	18,500	F
SR 22	West of US 98	D	16,400	Minor Arterial	Undivided	Urban	2	11,300	C
US 98	Gulf Co., east of CR 386	C	12,700	Principal Arterial	Undivided	Rural Developed	2	10,000	C
US 98	CR 386 – Tyndall AFB	C	12,700	Principal Arterial	Undivided	Rural Developed	2	9,200	C
US 98	Tyndall AFB – SR 22	D	35,700	Principal Arterial	Divided	Urban	4	34,600	D
US 98	SR 22- Tram Rd.	D	35,700	Principal Arterial	Divided	Urban	4	35,850	F
US 98	Tram Rd. – Transmitter Rd.	D	35,700	Principal Arterial	Divided	Urban	4	31,600	C
US 231	Transmitter Rd. – CR 390	C	35,700	Principal Arterial	Divided	Urban	4	25,800	B
US 231	CR 390 – Star Ave.	C	35,700	Principal Arterial	Divided	Urban	4	30,400	B
US 231	Star Ave. to the East	C	35,700	Principal Arterial	Divided	Urban	4	29,300	B
Star Ave.	SR 22 – Tram Rd.	D	16,400	Major Collector	Undivided	Urban	2	7,900	C
Star Ave.	Tram Rd. – US 231	D	16,400	Urban Collector	Undivided	Urban	2	8,300	C
Tram Road	US 98 – Star Ave.	D	19,600	Minor Collector	Undivided	Urban	2	900	A
Transmitter Rd	US 98 – US 231	D	16,400	Minor Arterial	Undivided	Urban	2	11,000	C
CR 390	North – Northwest of US 231	D	19,600	Urban Collector	Undivided	Urban	2	7,100	C
CR 2321	North – Northwest of US 231	D	19,600	Minor Arterial	Undivided	Urban	2	4,400	B
John Pitts Rd/ CR 2293 (John Pitts Rd.)	300 ft. east of Star Ave.	D	19,600	Minor Arterial	Undivided	Urban	2	3,600	B

Sources;

Traffic from 2011 FDOT Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2012), and

1. Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

2. Year 2009 Bay Co. Congestion Management System Plan Report, Bay County Transportation Planning Organization, from www.wfrpc.org/bay documents accessed in September 2009

Note: Letters in BOLD reflect a LOS below recommended value

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's QLOS Handbook.

Table 2-17a: Design Year Road Segment LOS: Alternative 8

Roadway	Segment	Year 2011 AADT	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2035 AADT	2035 LOS
Segment 1										
US 98	East of CR 386	10000	C	14,200	Principal Arterial	Undivided	Rural Developed	2	19165	D
US 98	West of CR 386	9200	C	14,200	Principal Arterial	Undivided	Rural Developed	2	7500	B
CR 386	US 98 – 15 th St.	1700	B	23,800	Principal Arterial	Divided	Rural Developed	4	13635	B
CR 386	15 th St. – Gulf Coast Parkway Segment 3	1900	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	13935	B
CR 386	Gulf Coast Parkway Segment 3 – SR 71	1500	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	2600	B
Segments 3, 8, 10, 14, 15										
Gulf Coast Parkway, Seg. 3, 8, 10	CR 386 – SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
SR 22	East of Gulf Coast Parkway, Segment 10	2800	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	5751	C
SR 22	Gulf Coast Parkway, Segment 10 – CR 2297 (Allanton Rd.)	4300	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	18986	B
SR 22	East of Gulf Coast Parkway, Segment 15	10500	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	29586	C
SR 22	West of Gulf Coast Parkway, Segment 15	10500	C	15,100	Minor Arterial	Undivided	Transitioning to Urban	2	16659	D
Gulf Coast Parkway, Seg. 15, 17, 21	North of SR 22	0	B	31,400	Principal Arterial	Divided	Transitioning to Urban	4	14386	B
Segments 17, 21										
Gulf Coast Parkway 17, 21	SR 22 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	14386	B
Star Avenue	South of Gulf Coast Parkway (South of Tram Rd.)	7400	D	14,850	Urban Collector	Undivided	Urban	2	10036	C
Gulf Coast Parkway Seg. 25 (Tram Rd.)	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
Star Avenue	North of Tram Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	16143	B
Segment 25										
Tram Road	US 98 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
US 98	South of Tram Road	35850	D	55,300	Principal Arterial	Divided	Urban	6	51000	C
US 98	North of Tram Road	31600	D	55,300	Principal Arterial	Divided	Urban	6	51200	C
14 th Street	West of Tyndall Parkway (US 98)	700	D	14,850	Minor Collector	Undivided	Urban	2	1200	B
Segment 26, 27										
Gulf Coast Parkway, Seg. 26	Tram Road – Nehi Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	16143	B
Star Avenue (Seg. 28)	North of Gulf Coast Parkway, Segment 26, 27	0	D	14,850	Urban Collector	Undivided	Urban	2	6036	B
Gulf Coast Parkway, Seg. 27	Star Avenue – US 231	0	D	36,700	Principal Arterial	Divided	Urban	4	10243	B
US 231	West, Southwest of Gulf Coast Parkway, Seg. 27	25800	D	55,300	Principal Arterial	Divided	Urban	6	45085	C
US 231	East, Northeast of Gulf Coast Parkway, Seg. 27	30400	D	55,300	Principal Arterial	Divided	Urban	6	54011	D

Sources;

Traffic from 2011 FDOT Florida Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2009), and

Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

Year 2009 Bay Co. Congestion Management System Plan Report, Bay County TPO, from www.wfpc.org/bay documents accessed in September 2009

Note: Letters in BOLD reflect a LOS below recommended value

SR 22 is assumed to have capacity (4-lane) improvements upstream/downstream of its intersection with Gulf Coast Parkway.

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's QLOS Handbook.

Table 2-17b: Design Year Road Segment LOS: Alternative 14

Roadway	Segment	Year 2011 AADT	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2035 AADT	2035 LOS
Segment 1, 3										
US 98	East of CR 386	10000	C	14,200	Principal Arterial	Undivided	Rural Developed	2	19165	D
US 98	West of CR 386	9200	C	14,200	Principal Arterial	Undivided	Rural Developed	2	7500	B
CR 386	US 98 – 15 th Street	1700	B	23,800	Principal Arterial	Divided	Rural Developed	4	13635	B
CR 386	15 th Street – Gulf Coast Parkway Segment 3	1900	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	13935	B
CR 386	Gulf Coast Parkway Segment 3 – SR 71	1500	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	2600	B
Segments 3, 8, 10, 15										
Gulf Coast Parkway, Seg. 3, 8, 10	CR 386 – SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
SR 22	East of Gulf Coast Parkway, Segment 10	2800	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	5751	C
SR 22 Gulf Coast Parkway Seg. 14	West of Gulf Coast Parkway, Segment 10	3400	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	17486	B
SR 22 Gulf Coast Parkway Seg. 15	West of Gulf Coast Parkway, Segment 30	10500	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	29586	B
SR 22	West of Gulf Coast Parkway, Segment 15	10500	D	21,100	Minor Arterial	Undivided	Transitioning to Urban	2	17250	D
Gulf Coast Parkway, Seg 15, 17, 21	North of SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	1489	B
Segments 17, 21										
Gulf Coast Parkway Seg. 17, 21	SR 22 – Tram Road	0	D	36,700	Principal Arterial	Divided	Urban	4	14386	B
Star Avenue	South of Gulf Coast Parkway (South of Tram Rd.)	7400	D	14,850	Urban Collector	Undivided	Urban	2	10036	C
Gulf Coast Parkway Seg. 25 (Tram Rd.)	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
Star Avenue	North of Tram Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	16143	B
Segment 25										
Tram Road	US 98 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
US 98	South of Tram Road	35850	D	55,300	Principal Arterial	Divided	Urban	6	51000	C
US 98	North of Tram Road	31600	D	55,300	Principal Arterial	Divided	Urban	6	51200	C
14 th Street	West of Tyndall Parkway (US 98)	700	D	14,850	Minor Collector	Undivided	Urban	2	1200	B
Segment 30, 31, 36-38										
Gulf Coast Parkway, Seg. 30, 31, 36-38	SR 22 – US 231	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	1489	B
US 231	Star Avenue to East	100	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	44296	C
US 231	US 231 (1,480 feet south of CR 388)	0	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	30523	C

Sources;

Traffic from 2011 FDOT Florida Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2009), and

Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

Year 2009 Bay Co. Congestion Management System Plan Report, Bay County TPO, from www.wfrpc.org/bay documents accessed in September 2009

Note: Letters in **BOLD** reflect a LOS below recommended value

SR 22 is assumed to have capacity (4-lane) improvements upstream/downstream of its intersection with Gulf Coast Parkway.

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's QLOS Handbook.

Table 2-17c: Design Year Road Segment LOS: Alternative 15

Roadway	Segment	Year 2011 AADT	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2035 AADT	2035 LOS
Segment 1										
US 98	East of CR 386	10000	C	14,200	Principal Arterial	Undivided	Rural Developed	2	19165	D
US 98	West of CR 386	9200	C	14,200	Principal Arterial	Undivided	Rural Developed	2	7500	B
CR 386	US 98 – 15 th Street	1700	B	23,800	Principal Arterial	Divided	Rural Developed	4	13635	B
CR 386	15 th Street – Gulf Coast Parkway Segment 3	1900	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	13935	B
CR 386	Gulf Coast Parkway Segment 3 – SR 71	1500	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	2600	B
Segments 3, 8, 10, 14, 15, 12, 40										
Gulf Coast Parkway, Seg. 3, 8, 10	CR 386 – SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
SR 22	East of Gulf Coast Parkway, Segment 10	2800	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	5751	C
SR 22- Gulf Coast Parkway Seg. 14	West of Gulf Coast Parkway, Segment 10	3400	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	17486	B
SR 22 – Gulf Coast Parkway Seg. 15	West of Gulf Coast Parkway, Segment 14	3400	C	41,100	Principal Arterial	Divided	Rural Undeveloped	4	17486	B
SR 22	West of Gulf Coast Parkway, Segment 15	10500	D	21,100	Minor Arterial	Undivided	Transitioning to Urban	2	16659	D
Gulf Coast Parkway, Seg. 12, 40	North of SR 22	100	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	1489	B
Segments 17, 21										
Gulf Coast Parkway Seg. 17, 21	SR 22 – Tram Road	0	D	36,700	Principal Arterial	Divided	Urban	4	14386	B
Star Avenue	South of Gulf Coast Parkway (South of Tram Rd.)	7400	D	14,850	Urban Collector	Undivided	Urban	2	10036	C
Gulf Coast Parkway Seg. 25 (Tram Rd.)	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
Star Avenue	North of Tram Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	16143	B
Segment 25										
Tram Road	US 98 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
US 98	South of Tram Road	35850	D	55,300	Principal Arterial	Divided	Urban	6	51000	C
US 98	North of Tram Road	31600	D	55,300	Principal Arterial	Divided	Urban	6	51200	C
14 th Street	West of Tyndall Parkway (US 98)	700	D	14,850	Minor Collector	Undivided	Urban	2	1200	B
Segment 12, 40, 41										
Gulf Coast Parkway, Seg. 40, 41	SR 22 – US 231	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	1513	B
US 231	Star Avenue to East	21000	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	29243	B
US 231	US 231 (1,480 feet south of CR 388)	20000	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	29243	B

Sources;

Traffic from 2011 FDOT Florida Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2009), and

Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

Year 2009 Bay Co. Congestion Management System Plan Report, Bay County TPO, from www.wfrpc.org/bay documents accessed in September 2009

Note: Letters in BOLD reflect a LOS below recommended value

SR 22 is assumed to have capacity (4-lane) improvements upstream/downstream of its intersection with Gulf Coast Parkway.

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's Quality Level of Service (QLOS) Handbook.

Table 2-17d: Design Year Road Segment LOS: Alternative 17

Roadway	Segment	Year 2011 AADT	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2035 AADT	2035 LOS
Segment 2										
US 98	East of CR 386	10000	C	14,200	Principal Arterial	Undivided	Rural Developed	2	19165	D
US 98	West of CR 386	9200	C	14,200	Principal Arterial	Undivided	Rural Developed	2	7500	B
CR 386	US 98 – 15 th Street	1700	B	23,800	Principal Arterial	Divided	Rural Developed	4	13635	B
CR 386	15 th Street – Gulf Coast Parkway Segment 2	1900	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	13935	B
CR 386	Gulf Coast Parkway Segment 2 – SR 71	1500	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	2600	B
Gulf Coast Parkway, Seg. 2	West of CR 386	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
Segments 16, 18, 21										
Gulf Coast Parkway, Seg. 2	CR 386 – SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
SR 22	East of Gulf Coast Parkway, Segment 2	10500	D	22,200	Minor Arterial	Undivided	Urban	2	20586	D
SR 22	West of Gulf Coast Parkway, Segment 2	10500	D	22,200	Minor Arterial	Undivided	Urban	2	16659	D
Gulf Coast Parkway Seg 16, 18, 21	SR 22 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	14386	B
Star Avenue	South of Gulf Coast Parkway (South of Tram Rd.)	7400	D	14,850	Urban Collector	Undivided	Urban	2	10036	C
Gulf Coast Parkway Seg. 25 (Tram Road)	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
Star Avenue (Gulf Coast Parkway Seg 26)	North of Tram Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	14043	B
Segment 25										
Tram Road	US 98 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
US 98	South of Tram Road	35850	D	55,300	Principal Arterial	Divided	Urban	6	51000	C
US 98	North of Tram Road	31600	D	55,300	Principal Arterial	Divided	Urban	6	51200	C
14 th Street	West of Tyndall Parkway (US 98)	700	D	14,850	Minor Collector	Undivided	Urban	2	1200	B
Segment 26, 27										
Star Ave. South of Seg. 27	Tram Road – Segment 27	8300	D	36,700	Principal Arterial	Divided	Urban	4	14043	B
Star Avenue	North of Gulf Coast Parkway, Segment 27	0	D	14,850	Urban Collector	Undivided	Urban	2	6036	B
Gulf Coast Parkway, Segment 27	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	10243	B
US 231	West, Southwest of Gulf Coast Parkway Seg 27	25800	D	55,300	Principal Arterial	Divided	Urban	6	45085	C
US 231	East, Northeast of Gulf Coast Parkway Seg. 27	30400	D	55,300	Principal Arterial	Divided	Urban	6	54011	D

Sources;

Traffic from 2011 FDOT Florida Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2009), and

Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

Year 2009 Bay Co. Congestion Management System Plan Report, Bay County TPO, from www.wftrpc.org/bay documents accessed in September 2009

Note: Letters in **BOLD** reflect a LOS below recommended value

SR 22 is assumed to have capacity (4-lane) improvements upstream/downstream of its intersection with Gulf Coast Parkway.

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's QLOS Handbook.

Table 2-17e: Design Year Road Segment LOS: Alternative 19

Roadway	Segment	Year 2011 AADT	Adopted LOS Standard	LOS Maximum Volume	Functional Classification	Facility Type	Area Type	No. Of Lanes	2035 AADT	2035 LOS
Segment 2										
US 98	East of CR 386	10000	C	14,200	Principal Arterial	Undivided	Rural Developed	2	19165	D
US 98	West of CR 386	9200	C	14,200	Principal Arterial	Undivided	Rural Developed	2	7500	B
CR 386	US 98 – 15 th Street	1700	B	23,800	Principal Arterial	Divided	Rural Developed	4	13635	B
CR 386	15 th Street – Gulf Coast Parkway Segment 2	1900	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	13935	B
CR 386	Gulf Coast Parkway Segment 2 – SR 71	1500	C	8,100	Minor Arterial	Undivided	Rural Undeveloped	2	2600	B
Gulf Coast Parkway, Seg. 2	West of CR 386	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
Segments 16, 18, 21										
Gulf Coast Parkway, Seg. 2	CR 386 – SR 22	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	10735	B
SR 22	East of Gulf Coast Parkway, Segment 2	10500	D	22,200	Minor Arterial	Undivided	Urban	2	20586	D
SR 22	West of Gulf Coast Parkway, Segment 2	10500	D	22,200	Minor Arterial	Undivided	Urban	2	16659	D
Gulf Coast Parkway Seg 16, 18, 21	SR 22 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	13986	B
Star Avenue	South of Gulf Coast Parkway (South of Tram Rd.)	7400	D	14,850	Urban Collector	Undivided	Urban	2	10036	C
Gulf Coast Parkway Seg. 25 (Tram Road)	West of Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
Star Avenue (Gulf Coast Parkway Seg 26)	North of Tram Road	8300	D	36,700	Principal Arterial	Divided	Urban	4	14043	B
Segment 25										
Tram Road	US 98 – Star Avenue	0	D	36,700	Principal Arterial	Divided	Urban	4	12443	B
US 98	South of Tram Road	35850	D	55,300	Principal Arterial	Divided	Urban	6	51000	C
US 98	North of Tram Road	31600	D	55,300	Principal Arterial	Divided	Urban	6	51200	C
14 th Street	West of Tyndall Parkway (US 98)	700	D	14,850	Minor Collector	Undivided	Urban	2	1200	B
Segment 29, 34, 36-38										
Gulf Coast Parkway Seg. 29, 34, 36-38	Gulf Coast Parkway Seg. 16 - US 231	0	B	26,300	Principal Arterial	Divided	Rural Undeveloped	4	1513	B
US 231	Star Avenue to the East	21000	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	33425	C
US 231	US 231 (1,480' south of CR 388)	20000	C	45,400	Principal Arterial	Divided	Transitioning to Urban	4	29243	B

Sources;

Traffic from 2011 FDOT Florida Traffic Information DVD

LOS data from FDOT Project Traffic Forecasting Handbook (2009), and

Year 2007 Gulf Co. LOS Report provided by Apalachee Regional Planning Council planning staff in September 2009

Year 2009 Bay Co. Congestion Management System Plan Report, Bay County TPO, from www.wfrpc.org/bay documents accessed in September 2009

Note: Letters in **BOLD** reflect a LOS below recommended value

SR 22 is assumed to have capacity (4-lane) improvements upstream/downstream of its intersection with Gulf Coast Parkway.

The congestion management databases from Gulf and Bay Counties were used to determine adopted LOS and road class only. Actual LOS volumes were obtained from the 2009 FDOT's QLOS Handbook.

2.7.2.2 Intersection Level of Service Analysis

An operational analysis of the project's major intersections was performed for the opening, interim and design year, respectively. Most of these intersections are new with the exceptions of the US 98 and CR 386 intersection in Mexico Beach, the SR 22 and Star Avenue intersection in Callaway, the Star Avenue and US 231 intersection, and the US 98 (Tyndall Parkway) and Tram Road intersection in Callaway. Therefore, only these four intersections were analyzed for the existing year 2012.

The configuration of the intersection of Tram Road (Gulf Coast Parkway Segment 25) at US 98, as well as the intersection of Nehi Road (Gulf Coast Parkway Segment 26) at US 231, were handled as special cases because their conceptual geometric design, based on traffic demand, called for a redesigned layout. For Tram Road and US 98 this required a new intersection configuration with improvement to US 98. For the Nehi Road and US 231 intersection a new grade separated intersection was required. Figures illustrating these intersections are which are presented in **Figures 2-16** through **2-17**.

Directional Design Hour Volume (DDHV) were developed for both the AM and PM peak periods at all the major intersections of the new proposed road and for existing intersections within the study area.

Existing Year Intersection LOS

The existing year (2012) peak hour turning movement volumes for the AM and PM peak periods at selected intersections using existing intersection arrangements and number of lanes were input into Synchro to analyze LOS conditions. **Table 2-18**, which summarizes the LOS results for existing conditions, indicates that the LOS at the study intersections is currently below the FDOT standard with the exception of the intersection at US 231 and Star Avenue.

Table 2-18: Existing (2012) Year Intersection LOS (No-Build Scenario)

Intersections	AM LOS	PM LOS
US 98 and CR 386	F	F
SR 22 and Star Avenue	E	E
Star Avenue and US 231	B	C
US 98 and Tram Road	F	F

Figure 2-16: US 98 (Tyndall Parkway)/Gulf Coast Parkway (Tram Road) Intersection Configuration DDHV

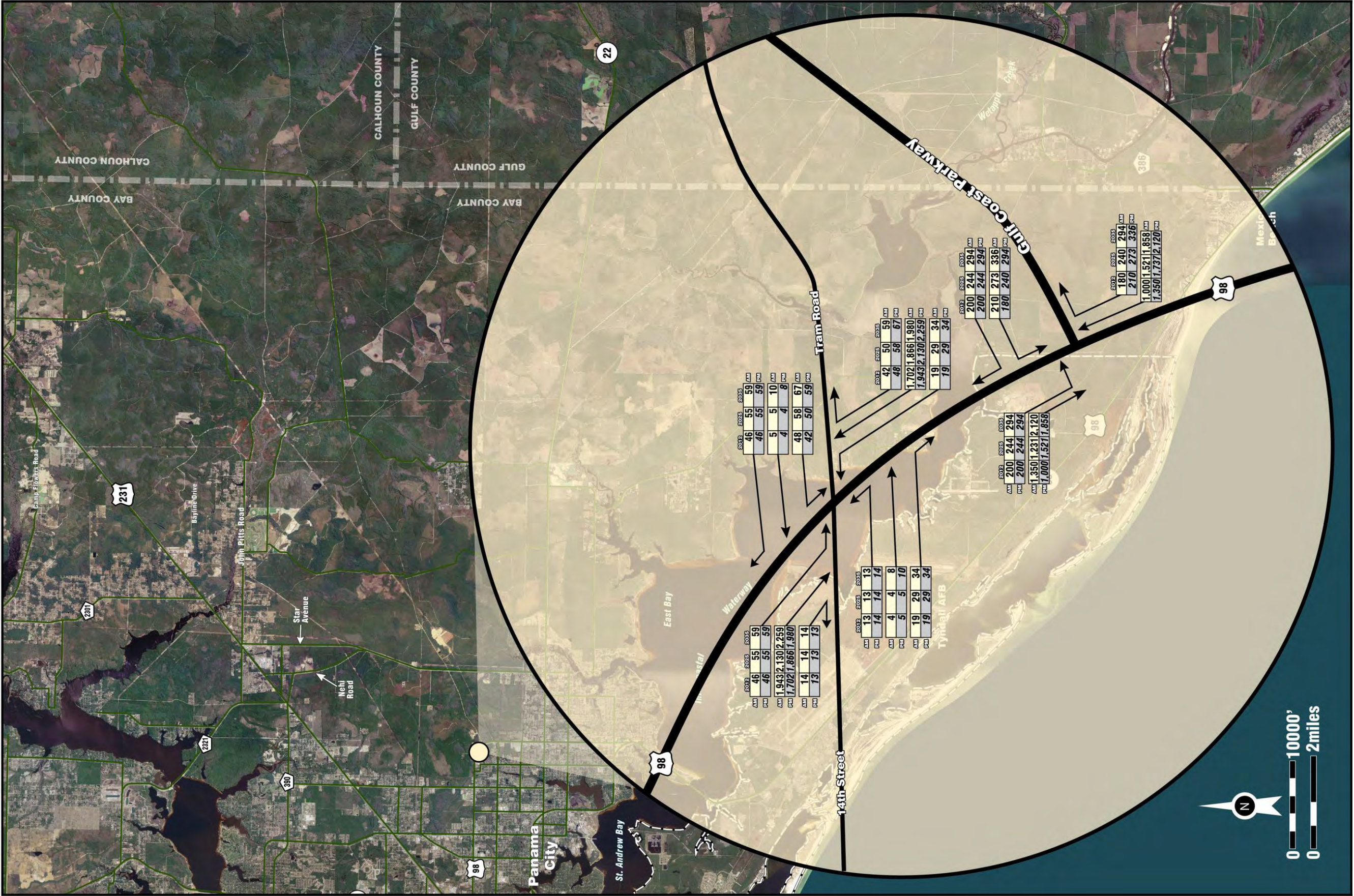
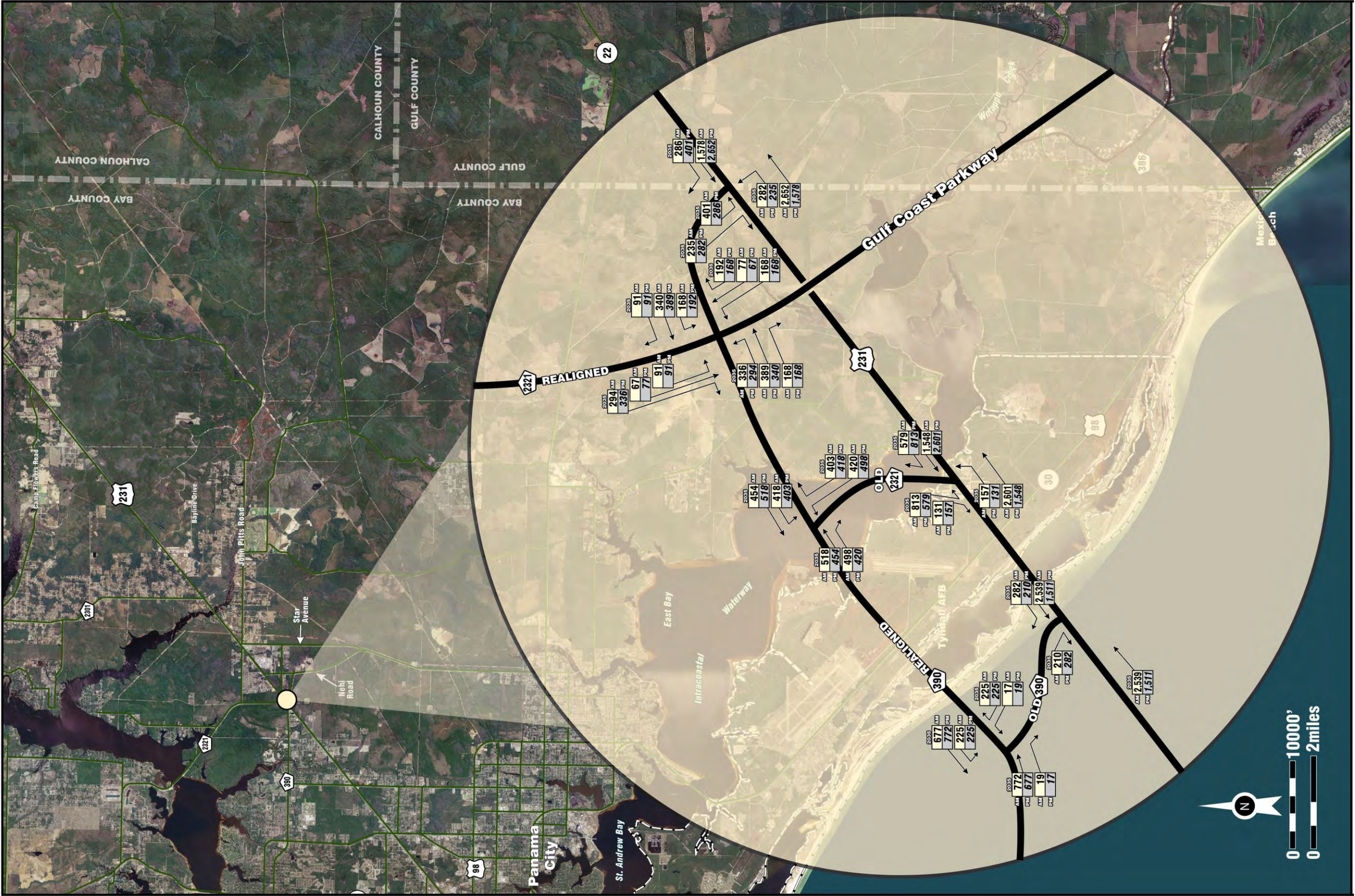


Figure 2-17: US 231/Gulf Coast Parkway (Nehi Road) Intersection Configuration DDHV



Future Year Intersection LOS

Intersections have been classified into types based on the projected traffic volumes, the various arrangements of lanes, and intersection controls. Along the alignments for Gulf Coast Parkway Alternatives 8, 14, 15, 17, and 19 there are fourteen intersection types (**Table 2-19**). **Figure 2-18** identifies the locations of the intersections analyzed with a letter designation (not to be confused with LOS letter designations). The letter designation is also shown in parentheses after the description of the intersection in **Table 2-19**.

These intersections were analyzed as either two-way stop controlled, all-way stop controlled, or signalized intersections with optimized signal timings on existing geometry to determine if signalization was required to achieve acceptable intersection LOS. If signal controlled operation could not achieve acceptable LOS conditions, then additional analysis was conducted to determine if additional geometric improvements were required to meet acceptable LOS.

Table 2-20 summarizes the future capacity analyses for the Alternative 8, 14, 15, 17 and 19 intersections in both existing year (2012) and design year (2035).

Table 2-19: List of Intersections Analyzed for Alternatives 8, 14, 15, 17 and 19

Intersection Type	Alternative 8	Alternative 14	Alternative 15	Alternative 17	Alternative 19
1	US 98 @ CR 386 (A)	US 98 @ CR 386 (A)	US 98 @ CR 386 (A)	US 98 @ CR 386 (A)	US 98 @ CR 386 (A)
2	CR 386@ Gulf Coast Parkway, Seg 3 (C)	CR 386 @ Gulf Coast Parkway, Seg 3 (C)	CR 386 @ Gulf Coast Parkway, Seg 3 (C)	CR 386 @ Gulf Coast Parkway, Seg 2 (B)	CR 386 @ Gulf Coast Parkway, Seg 2 (B)
3				Gulf Coast Parkway Seg 2, 16 @ SR 22 (G)	Gulf Coast Parkway Seg 2, 29 @ SR 22 (G)
4	Gulf Coast Parkway Seg 10 @ SR 22 (D)	Gulf Coast Parkway Seg 10 @ SR 22 (D)	Gulf Coast Parkway Seg 10 @ SR 22 (D)		
5	Gulf Coast Parkway Seg 15 @ SR 22 (H)	Gulf Coast Parkway Seg 15 @ SR 22 (H)	Gulf Coast Parkway Seg 15 @ SR 22 (H)		
5a		Gulf Coast Parkway Seg 30 @ SR 22 (F)	Gulf Coast Parkway Seg 12, 40 @ SR 22 (E)		
6					Gulf Coast Parkway Seg 16, 29 @ Gulf Coast Parkway Seg. 29 (O)
7		Gulf Coast Parkway Seg 21, 25 @ Star Avenue (I)	Gulf Coast Parkway Seg 21, 25 @ Star Avenue (I)		Gulf Coast Parkway Seg 21, 25 @ Star Avenue (I)
8	Gulf Coast Parkway Seg 21, 25 @ Star Ave Gulf Coast Parkway Seg.26 (I)			Gulf Coast Parkway Seg 21, 25 @ Star Ave Gulf Coast Parkway Seg.26 (I)	
9	Gulf Coast Parkway Seg 25 @ US 98 Tyndall Parkway (J)	Gulf Coast Parkway Seg 25 @ US 98 Tyndall Parkway (J)	Gulf Coast Parkway Seg 25 @ US 98 Tyndall Parkway (J)	Gulf Coast Parkway Seg 25 @ US 98 Tyndall Parkway (J)	Gulf Coast Parkway Seg 25 @ US 98 Tyndall Parkway (J)
10	Gulf Coast Parkway Seg 26, 27 @ Star Ave (K)			Gulf Coast Parkway Seg 26, 27 @ Star Ave (K)	
12	Gulf Coast Parkway Seg 27 @ US 231 (L)			Gulf Coast Parkway Seg 27 @ US 231 (L)	
13		Gulf Coast Parkway Seg 30, 36-38 @ US 231 (M)			Gulf Coast Parkway Seg 30, 36-38 @ US 231 (M)
14			Gulf Coast Parkway Seg 40, 41 @ US 231 (N)		

Source: PBS&J

Note: Highlighted intersections are special cases, which were analyzed separately. Details in Appendices D and E of the *Traffic Report*
Letters in parenthesis designate the intersection shown on Figure 2-19.

Figure 2-18: Gulf Coast Parkway Alternatives' Intersections Subject to Operational Analysis

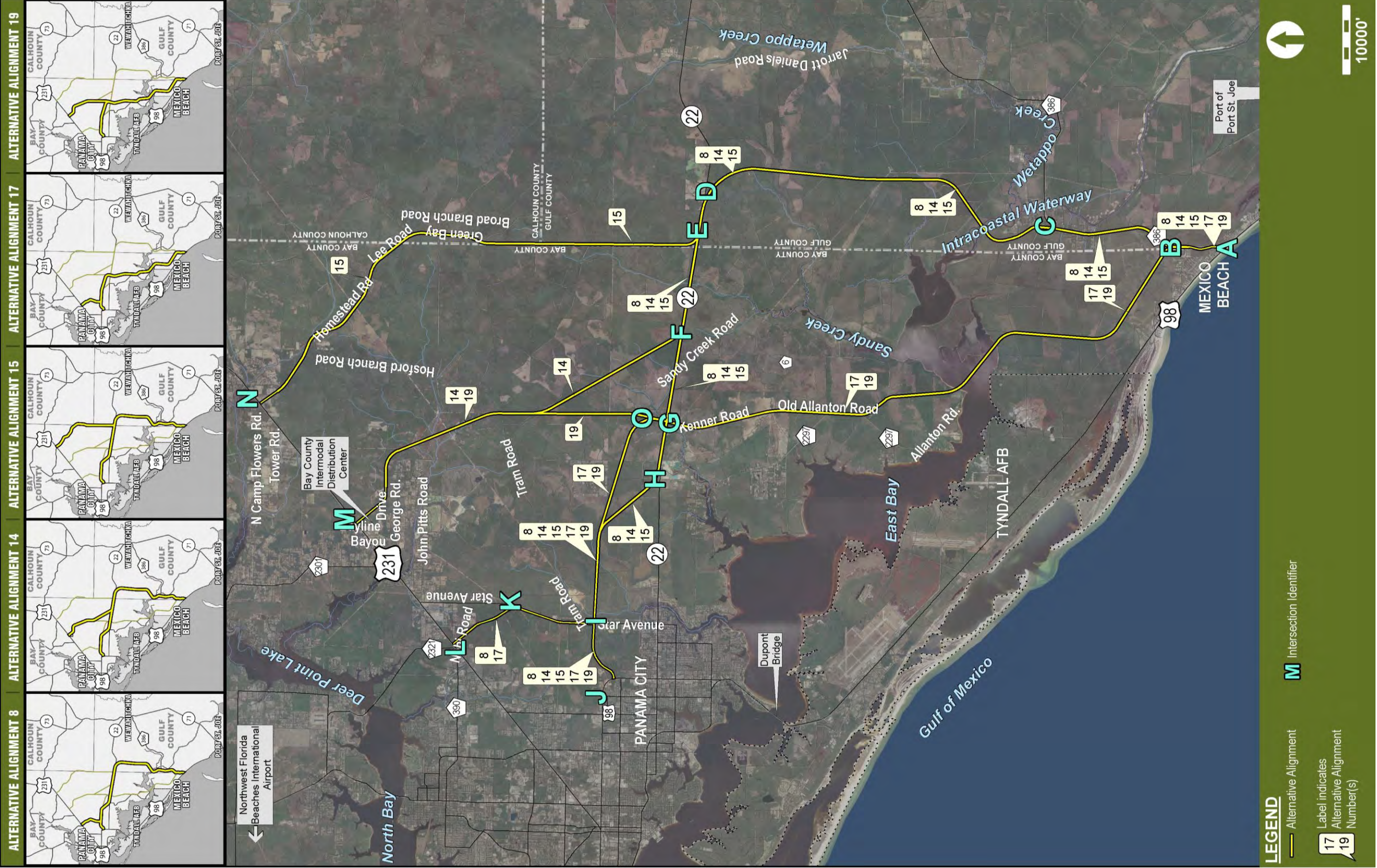


Table 2-20: Future Year (2012 and 2035) Intersection LOS for Alternatives 8, 14, 15, 17, and 19

Intersection Type 1: US 98 and Gulf Coast Parkway/CR386 (A)		
2012 DHV	AM LOS	PM LOS
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	B	B
Signalized with Improvements (EB LT, WB RT, Dual SB LT, SB RT)	A	A
2035 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	F	F
Signalized with Improvements (EB LT, Dual EB TH, Dual WB TH/Shared RT, WB RT, Dual SB LT, SB RT)	B	B
Intersection Type 2: CR 386 at Gulf Coast Parkway Segment 2 (B) and CR 386 at Gulf Coast Parkway Segment 3 (C)		
2012 DHV		
Unsignalized with Existing Geometry	B	B
Signalized with Existing Geometry	B	B
Signalized with Improvements (EB: LT, TH, WB: TH, RT, SB: LT, RT)	A	A
2035 DHV		
Unsignalized with Existing Geometry	E	F
Signalized with Existing Geometry	B	C
Signalized with Improvements (Dual EB LT/Shared TH, EB TH, Dual WB TH/Shared RT, SB: LT, RT)	A	A
Intersection Type 3: SR 22 at Gulf Coast Parkway Segments 2, 16 (G) SR 22 at Gulf Coast Parkway Segments 2, 29 (G)		
2012 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	F	F
Signalized with Improvements (WB: LT, TH, RT, NB RT, SB LT)	B	B
2035 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	F	F
Signalized with Improvements (EB LT, 2 EB TH/Shared RT, WB: LT, 2TH, RT, SB: 2LT, Dual SB TH/Shared RT, NB: LT, 2TH/Shared RT)	C	C
Intersection Type 4: SR 22 at Gulf Coast Parkway Segment 10 (D)		
2012 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	B	B
Signalized with Improvement (EB RT)	B	A
2035 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	D	E
Signalized with Improvement (EB: TH, RT, WB TH, NB: 2 LT, RT)	A	A
Intersection Type 5: SR 22 at Gulf Coast Parkway Segment 15 (H)		
2012 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	F	E
Signalized with Improvements (WB RT, Dual SB LT/Shared RT)	A	B
2035 DHV		
Unsignalized with Existing Geometry	F	F
Signalized with Existing Geometry	F	F
Signalized with Improvements (WB: RT, 2TH, Dual SB LT/ Shared RT)	A	B
Intersection Type 5A: SR 22 and Gulf Coast Parkway Segments 30 and SR 22 at Segment 12, 40(F)		
2012 DHV		
Unsignalized with Existing Geometry	C	D
Signalized with Existing Geometry	A	A
2035 DHV		
Unsignalized with Existing Geometry	C	D
Signalized with Existing Geometry	A	A
Signalized with Improvement (EB: LT, TH, WB TH, RT)	A	A

Intersection Type 6: Gulf Coast Parkway Segments 16, 29 at Gulf Coast Parkway Segment 29 (O)		
2012 DHV		
Unsignalized with 2 lanes in each direction	F	F
Signalized with 2 lanes in each direction	D	C
Signalized with Improvements (EB: LT, NB: LT)	B	B
2035 DHV		
Unsignalized with 2 lanes in each direction	F	F
Signalized with 2 lanes in each direction	F	F
Signalized with Improvements 4 lanes in each direction (EB: Shared LT/RT, RT, Dual NB LT and TH)	B	B
Intersection Type 7: Star Avenue at Gulf Coast Parkway Segments 21, 25 (I)		
2012 DHV		
Unsignalized with 2 lanes in each direction	F	F
Signalized with 2 lanes in each direction	C	C
Signalized with Improvements (NB/SB/WB/EB: LT, TH/Shared RT)	B	B
2035 DHV		
Unsignalized with 2 lanes in each direction	F	F
Signalized with 2 lanes in each direction	F	F
Signalized with Improvements 4 lanes in each direction (NB/SB: LT, Dual TH/Shared RT, EB/WB: LT, 2 TH, RT)	B	B
Intersection Type 8: Star Avenue, Gulf Coast Parkway Segment 26, at Gulf Coast Parkway Segments 17, 21, 25 (I)		
2012 DHV		
Unsignalized with 2 lanes in each direction	F	F
Signalized with 2 lanes in each direction	C	D
Signalized with Improvements (NB/SB/WB/EB: LT, TH/Shared RT)	B	B
2035 DHV		
Unsignalized with 2 lanes in all direction	F	F
Signalized with 2 lanes in all direction	F	F
Signalized with Improvements 4 lanes in each direction (NB/SB: LT, Dual TH/Shared RT, EB/WB: LT, 2 TH, RT)	B	B
Intersection Type 10: Gulf Coast Parkway Seg 26, 27 at Star Avenue (K)		
2012 DHV		
Unsignalized with 2 lanes in each direction	B	C
Signalized with 2 lanes in each direction	B	B
Signalized with Improvements (NB: LT, TH, SB: TH, RT, EB: LT, RT)	A	A
2035 DHV		
Unsignalized with 2 lanes in all directions	F	F
Signalized with 2 lanes in all directions	D	C
Signalized with Improvements (NB: LT, 2 TH, Dual SB TH/Shared RT, EB: LT, RT)	B	B
Intersection Type 13: US 231 at Gulf Coast Parkway Segments 30, 38 (M)		
2012 DHV		
Signalized with Existing Geometry (4 lanes US 231 with Interim scenario)	A	A
Signalized with improvements (6 lanes US 231 with Interim scenario)	A	A
2035 DHV		
Signalized with Existing Geometry (4 lanes US 231 with Full Buildout scenario)	B	B
Signalized with Existing Geometry (6 lanes US 231 with Full Buildout scenario)	A	B
Intersection Type 14: US 231 at Gulf Coast Parkway Segments 40, 41 (N)		
2012 DHV		
Signalized with Existing Geometry (4 lanes US 231 with Interim scenario)	A	A
Signalized with improvements (6 lanes US 231 with Interim scenario)	A	A
2035 DHV		
Signalized with Existing Geometry (4 lanes US 231 with Full Buildout scenario)	B	B
Signalized with Existing Geometry (6 lanes US 231 with Full Buildout scenario)	A	B

Note: Bold values indicate unacceptable conditions.

Letters in parenthesis indicate the location of the intersection as shown on Figure 2-18.

Tables 2-21 and 2-22 present the LOS results for the intersection of future Gulf Coast Parkway (Segment 27)/US 231 and Gulf Coast Parkway (Segment 25)/US 98 (Tyndall Parkway) in existing year (2012) and design year (2035). The detailed analysis of the Gulf Coast Parkway @ US 231/CR 390/CR 2321 (Gulf Coast Parkway North Termini) intersection is included in the Appendix D of the *Traffic Report*, and the detailed analysis of the Gulf Coast Parkway @ US 98/Tram Road (Tram Road Terminus) intersection is included in the Appendix E of the *Traffic Report*.

Table 2-21: Future Year LOS for US 231 @ Gulf Coast Parkway (Nehi Road)

Intersection Type 12: US 231 and Gulf Coast Parkway Segment 27		
2012 DHV	AM LOS	PM LOS
Signalized with Existing Geometry (4 lanes US 231 with Interim scenario)	C	C
Signalized with improvements (6 lanes US 231 with Interim scenario)	B	B
2035 DHV	AM LOS	PM LOS
Signalized with Existing Geometry (4 lanes US 231 with Full Buildout scenario)	D	C
Signalized with Existing Geometry (6 lanes US 231 with Full Buildout scenario)	A	B

Note: Bold values indicate unacceptable conditions.

The results of the 2012 scenario traffic condition analysis for US 231 and Gulf Coast Parkway (Segment 27) indicate that the intersection LOS would operate at LOS C or better with the Interim Scenario. The 2035 scenario traffic conditions analysis indicates that US 231 and Gulf Coast Parkway with US 231 widened to 6 lanes and the full build-out intersection scenario, would operate at LOS B or better.

Table 2-22: Future Year LOS for US 98 (Tyndall Parkway) @ Gulf Coast Parkway (Tram Road)

Intersection Type 9: US 98 (Tyndall Parkway) and Gulf Coast Parkway Segment 25		
2012 DHV	AM LOS	PM LOS
Signalized with Existing Geometry (Initial Scenario)	E	D
Signalized with improvements (WB: Dual LT lane and a single RT lane with Initial scenario)	B	B
2035 DHV	AM LOS	PM LOS
Signalized with improvements (6 lanes US 98 with final scenario)	A	B

Note: Bold values indicate unacceptable conditions.

For the Initial Scenario, the existing signalized intersection of US 98 (Tyndall Parkway) and Tram Road/Gulf Coast Parkway (Segment 25) was analyzed with only an additional northbound right turn lane on US 98. The results of the 2012 Initial Scenario traffic condition analysis indicate that US 98 (Tyndall Parkway) and Tram Road/Gulf Coast Parkway (Segment 25) would operate with unacceptable LOS conditions during the AM peak hour with the existing intersection arrangement and number of lanes. With the Tram Road/Gulf Coast Parkway (Segment 25) approach having dual left turn lanes and a single right turn lane, the intersection would operate at LOS B. Also, for the design year (2035), the intersection would have unacceptable LOS F conditions unless US 98 (Tyndall Parkway) is widened to six lanes. With a six-lane US 98 (Tyndall Parkway), the intersection would operate at LOS B or better.

The results of the future traffic analysis indicate that all of the proposed intersections will operate at an acceptable LOS with signalization and the proposed improvements.

2.7.3 Construction Phasing Based on Traffic Demand

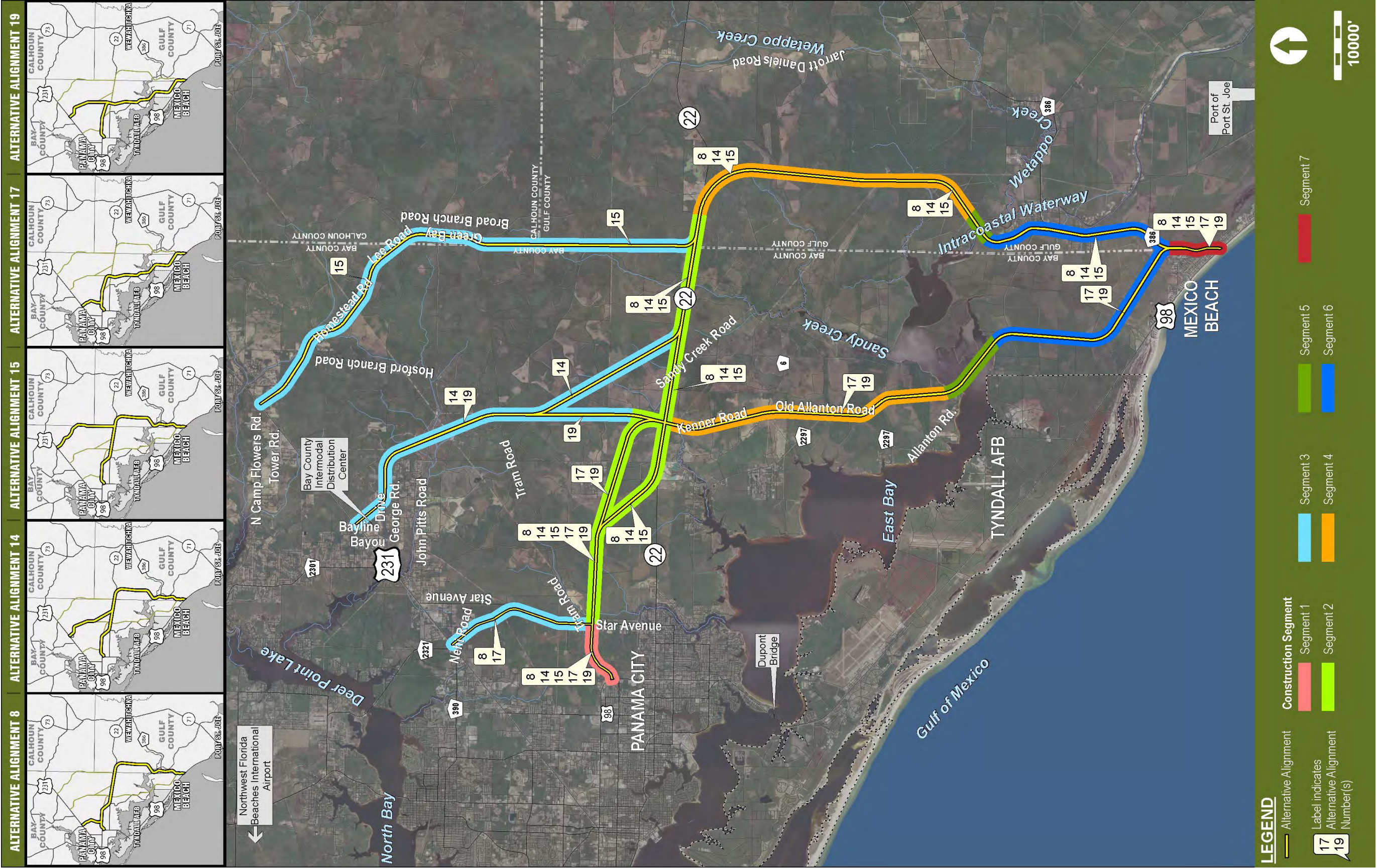
Based on the projected traffic demand in the design year (2035), the proposed project, regardless of the build alternative selected, would need to provide a four-lane roadway from US 98 in Gulf County to US 231 and US 98 (Tyndall Parkway) in Bay County. However, if the entire project were to be constructed at one time, only the urban segments would require immediate construction of the four-lane roadway. The urban segments are: Segments 8 [the segment from US 98 (Tyndall Parkway) to Star Avenue] and 9 (from the intersection of the Gulf Coast Parkway with Star Avenue, along Star Avenue and Nehi Road to US 231). The remaining segments would utilize the interim two-lane typical section until traffic demand warrants widening to four lanes. **Table 2-23** summarizes the typical section utilized (two-lane or four-lane) per segment during the initial construction of each alternative (shown on **Figure 2-19**).

Table 2-23: Construction Phasing Based on Traffic Demand

Alternative	Segment ID	Construction Segment Description	Initial Construction Typical Section	Typical Section in 2035
8	8	From Star Avenue west 0.7 mile on new alignment to Tram Road, along Tram Road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of Tram Road	Four-lane Ultimate	
	7	West on SR 22 for 6.5 miles where it veers northwest on new alignment then west, parallel to SR 22, for 5.0 miles to intersect Star Avenue 0.3 mile south of Tram Road.	Two-lane Interim	Four-lane Ultimate
	9	From intersection of Gulf Coast Parkway Segment 7 with Star Avenue, north on Star Avenue for 2.1 miles until it turns northwest on new alignment and travels for 2.36 miles to intersect with US 231.	Four-lane Ultimate	
	6	From northern end of approach to bridge over ICWW/ Wetappo Creek north on new alignment to SR 22.	Two-lane Interim	Four-lane Ultimate
	5	From southern approach of proposed bridge over ICWW/ Wetappo Creek to north approach of bridge	Two-lane Interim	Four-lane Ultimate
	4	From intersection of CR 386 and proposed Gulf to Bay Highway north on CR 386 to Overstreet, continues north then northeast to on new alignment to south bridge approach	Two-lane Interim	Four-lane Ultimate
	3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway	Two-lane Interim	Four-lane Ultimate
14	8	From Star Avenue west 0.7 mile on new alignment to Tram Road, along Tram Road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of Tram Road	Four-lane Ultimate	
	7	Along SR 22 from where Segment 9 takes new alignment, for 4.0 miles, veers northwest then west on new alignment to intersect with Star Avenue 0.3 mile south of Tram Road	Two-lane Interim	Four-lane Ultimate
	9	West along SR 22, from SR 22 intersection with Segment 6, for 2.5 miles, veers northwest on new alignment for 8.0 miles where it turns west, then northwest to connect to US 231 in vicinity of Bay Line Drive	Two-lane Interim	Four-lane Ultimate
	6	From northern end of approach to bridge over ICWW/ Wetappo Creek north on new alignment to SR 22.	Two-lane Interim	Four-lane Ultimate
	5	From southern approach of proposed bridge over ICWW/ Wetappo Creek to north approach of bridge	Two-lane Interim	Four-lane Ultimate
	4	From intersection of CR 386 and proposed Gulf to Bay Highway north on CR 386 to Overstreet, continues north then northeast to on new alignment to south bridge approach	Two-lane Interim	Four-lane Ultimate
	3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway	Two-lane Interim	Four-lane Ultimate
15	8	From Star Avenue west 0.7 mile on new alignment to Tram Road, along Tram Road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of Tram Road	Four-lane Ultimate	

Alternative	Segment ID	Construction Segment Description	Initial Construction Typical Section	Typical Section in 2035
	7	Along SR 22 from where Segment 9 takes new alignment, for 6.5 miles, veers northwest on new alignment then west to intersect with Star Avenue 0.3 mile south of Tram Road	Two-lane Interim	Four-lane Ultimate
	9	From intersection of Segment 6 and SR 22, proceeds north on new alignment for 14 miles to intersect US 231 near Camp Flowers Road.	Two-lane Interim	Four-lane Ultimate
	6	From northern end of approach to bridge over ICWW/ Wetappo Creek north on new alignment to SR 22.	Two-lane Interim	Four-lane Ultimate
	5	From southern approach of proposed bridge over ICWW/ Wetappo Creek to north approach of bridge	Two-lane Interim	Four-lane Ultimate
	4	From intersection of CR 386 and proposed Gulf to Bay Highway north on CR 386 to Overstreet, continues north then northeast to on new alignment to south bridge approach	Two-lane Interim	Four-lane Ultimate
	3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway	Two-lane Interim	Four-lane Ultimate
17	8	From Star Avenue west 0.7 mile on new alignment to Tram Road, along Tram road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of Tram Road	Four-lane Ultimate	
	7	From SR 22 on new alignment north of and parallel to SR 22 to intersect with Star Avenue	Two-lane Interim	Four-lane Ultimate
	9	From intersection of Gulf Coast Parkway Segment 7 with Star Avenue, north on Star Avenue for 2.1 miles until it turns northwest on new alignment and travels for 2.36 miles to intersect with US 231.	Four-lane Ultimate	
	6	From northern end of approach to bridge over East Bay north on new alignment to CR 2297. Travels north on existing CR 2297 until it diverges into Old Allanton Road/Kenner Road and then continues north over existing Old Allanton/Kenner Road until it intersects with SR 22.	Two-lane Interim	Four-lane Ultimate
	5	From southern approach of proposed bridge over East Bay to north approach of bridge	Two-lane Interim	Four-lane Ultimate
	4	From intersection of CR 386 and proposed Gulf to Bay Highway west and then northwest along new alignment until the southern approach of proposed bridge over East Bay.	Two-lane Interim	Four-lane Ultimate
	3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway.	Two-lane Interim	Four-lane Ultimate
19	8	From Star Avenue west 0.7 mile on new alignment to Tram Road, along Tram road 0.5 mile, then southwest on new alignment to a new intersection with US 98 (Tyndall Parkway) approximately 1,000 feet south of Tram Road	Four-lane Ultimate	
	7	From intersection of Kenner Road and SR 22, north then west on new alignment parallel to SR 22 to intersect with Star Avenue	Two-lane Interim	Four-lane Ultimate
	9	From intersection of Kenner Road and SR 22 north on new alignment for 6.2 miles, veers west then northwest to intersect US 231 in the vicinity of Bay Line Road.	Two-lane Interim	Four-lane Ultimate
	6	From northern end of approach to bridge over East Bay north on new alignment to CR 2297. Travels north on existing CR 2297 until it diverges into Old Allanton Road/Kenner Road and then continues north over existing Old Allanton/Kenner Road until it intersects with SR 22.	Two-lane Interim	Four-lane Ultimate
	5	From southern approach of proposed bridge over East Bay to north approach of bridge	Two-lane Interim	Four-lane Ultimate
	4	From intersection of CR 386 and proposed Gulf to Bay Highway west and then northwest along new alignment until the southern approach of proposed bridge over East Bay.	Two-lane Interim	Four-lane Ultimate
	3	From intersection of US 98 and CR 386 north along existing CR 386 for 1.6 miles until the intersection of the proposed Gulf to Bay Highway.	Two-lane Interim	Four-lane Ultimate

Figure 2-19: Alternatives Construction Segments



However, for such a large and expensive project, it is expected that the project would be constructed in segments, the timing of which is based on a variety of factors including the need for connectivity, transportation demand, and availability of funding. The first segment to be advanced will be Segment 8, which will be on mostly new alignment extending from CR 2315 (Star Avenue) to SR 30A (US 98/Tyndall Parkway) which has design scheduled in fiscal year 2014, right-of-way acquisition scheduled in fiscal year 2015, and construction scheduled for fiscal year 2016. Segment 7 would follow with design scheduled in 2036, right-of-way acquisition in 2038, and construction in 2040. Segment 9 would begin design in 2040, with right-of-way acquisition in 2043, and construction in 2045. All remaining segments would not begin until after 2050. It is anticipated that design, right-of-way acquisition, and construction of Segments 6, 5, and 4, which include the bridge across East Bay, would occur concurrently. Design, right-of-way acquisition, and construction of Segment 3 would occur last.

2.7.4 Traffic Impact on Existing Roadways

The existing roadways of interest are US 98 (SR 30A or Tyndall Parkway), US 231 (SR 75), SR 22 (Wewa Highway), and Star Avenue (CR 2293), since these are the most important roadways within the study area. **Table 2-24** shows that the segment of SR 22 between Star Ave and US 98 (Tyndall Parkway) is operating at LOS F in the year 2012. Similarly, US 98 (Tyndall Parkway) between SR 22 and Tram Road is also failing. US 98 (Tyndall Parkway) between Tyndall AFB and SR 22 is operating at the limit of the adopted LOS in the year 2012.

Alternatives 8 and 17 design traffic (**Tables 2-17a and 2-17d**, respectively) also shows that the intersection of the Gulf Coast Parkway with US 98 (Tyndall Parkway) and the intersection of the Gulf Coast Parkway with US 231 will need improving to six lanes to operate at an acceptable LOS.

A detailed analysis of the traffic impacts under different scenarios follows, so that these roadways mentioned above can be evaluated in terms of their respective performance without Gulf Coast Parkway and with each of the Gulf Coast Parkway alternatives present. They are presented in table format preceded by a brief bullet discussion.

Table 2-24 shows the traffic volumes and LOS for the selected roadways if the Gulf Coast Parkway is not built. This No Build scenario shows that:

- SR 22 will operate acceptably as a two-lane facility in Gulf County and in Bay County from SR 71 to west of CR 2297 (Allanton Road). The quality of the service is shown as at least LOS C in all future years.
- SR 22 from east of Star Ave. to Tyndall Parkway (US 98) should be improved at least from two lanes to a four-lane facility as this segment is failing in the year 2011. **Table 2-18** indicates that in the year 2035, even with four lanes, this same section is shown to fail. Improvements to this segment of SR 22 should include additional capacity from east of Star Avenue and west of US 98 (Tyndall Parkway) for the year 2035.
- US 98, from east of the Tyndall AFB main entrance to east of CR 386 falls below the adopted LOS C for a two-lane facility starting in the year 2025. Although it is not failing, the LOS is shown to be LOS “D” and will reach LOS E in 2035.
- US 98 (Tyndall Parkway) as a four-lane facility from west of the Tyndall AFB main entrance to north of Tram Road, is shown to be failing in all future years.

- US 231 (part of the SIS) has more stringent LOS requirements. It is currently a four-lane facility. The segment southwest of CR 390 is shown to be below the adopted LOS C in 2012, and failing in the years 2025 2035 (LOS F).
- US 231 northeast of CR 390 to east of Star Avenue is shown as LOS C through 2025 but falling to LOS D in 2035.
- Star Avenue does not need additional capacity in all future years in the “no-build” scenario. A two-lane Star Avenue is shown to operate at LOS C (north of Tram Road) and at LOS D (south of US 231) in 2035.

Table 2-24: Gulf Coast Parkway Traffic Impact on Selected Roadway Segments: No-Build Scenario

Roadway	Segment	Adopted LOS Standard	Year 2011 AADT	Year 2011 LOS	No-Build Scenario: No Gulf Coast Parkway - Only SR 22 Partially Improved ¹							
					AADT (Background + DRI Traffic)			Future No. of Lanes	Future Facility Type	LOS		
					Year 2012	Year 2025	Year 2035			Year 2012	Year 2025	Year 2035
SR 22	West of SR 71 - Bay Co. line (Gulf Co.)	C	2,900	B	4,001	4,750	5,818	2	Undivided	B	B	C
SR 22	Bay Co. Line - Sandy Creek Rd	C	3,300	B	4,677	5,542	6,783	2	Undivided	C	C	C
SR 22	Sandy Creek Rd - CR 2297 (Allanton Rd.)	D	4,200	B	5,691	6,729	8,230	2	Undivided	C	C	C
SR 22	CR 2297 - Star Ave	D	10,300	C	12,673	14,910	18,203	4	Divided	C	D	F
SR 22	Star Ave - US 98	D	20,900	F	21,776	25,582	31,215	4	Divided	F	F	F
SR 22	West of US 98	D	11,100	C	12,726	14,910	18,175	4	Undivided	B	B	B
US 98	Gulf Co., East of CR 386	C	9,800	C	12,742	15,047	18,150	2	Undivided	C	D	E
US 98	CR 386 - Tyndall AFB	C	9,100	C	12,479	14,786	17,852	2	Undivided	C	D	E
US 98	Tyndall AFB - SR 22	D	35,500	D	33,738	31,857	29,592	4	Divided	F	F	F
US 98	SR 22 - Tram Rd	D	36,800	F	35,883	34,161	32,100	4	Divided	F	F	F
US 98	Tram Rd - Transmitter Rd	D	32,400	C	31,835	30,368	28,602	4	Divided	F	F	F
US 231	Transmitter Rd - CR 390	C	25,400	B	29,755	34,914	42,582	4	Divided	C	F	F
US 231	CR 390 - Star Ave	C	29,900	C	35,597	41,808	51,007	4	Divided	C	C	D
US 231	Star Ave to the east	C	28,800	B	35,647	41,960	51,234	4	Divided	C	C	D
Star Ave	SR 22 - Tram Rd	D	7,800	B	8,984	10,533	12,843	2	Undivided	C	C	C
Star Ave	Tram Rd - US 231	D	8,200	B	9,435	11,061	13,486	2	Undivided	C	C	D

Notes:

1. Assuming SR 22 widened to 4 lanes between US 98 (Tyndall Pkwy) to east of Star Ave.

LOS letter grades in **BOLD** are failing grades; in *ITALIC* represent worse than the adopted LOS for that facility or segment

Source: PBS&J calculations

Table 2-24 presents the traffic impacts of Alternative 8 or Alternative 17, if they are built, on the LOS of the same nearby facilities considered in the “no-build” scenario. A few comments can be made, as follows:

- SR 22 will operate acceptably as a two-lane facility in Gulf County with either Alternative 8 or 17. In Bay County, Alternative 8 intersects SR 22 near the Gulf County line and then follows the existing SR 22 alignment. This section of SR 22 would be improved to a four-lane facility and, therefore, would operate at a LOS B, which is far better than the recommended LOS C or D. West of CR 2297 (Allanton Road), Alternative 8 turns north, and traffic volumes on SR 22 are expected to decrease until near Star Avenue. It was assumed that SR 22 will be widened to 4 lanes to keep it consistent with the “no-build” scenario assumptions. Therefore, SR 22 east of Star Avenue would operate at LOS B in all future years. This reduction of traffic would also benefit the operations of SR 22 between Star Avenue and US 98 (Tyndall Parkway), which would operate at LOS C in the design year, if the widening to four lanes occurs. If Alternative 17 is built, then the situation is very similar to Alternative 8, with SR 22 operating acceptably east and west of the Gulf Coast Parkway with the increased capacity of a four-lane facility. The quality of the service is shown at LOS B or C in all future years, which are better than the adopted LOS D for those sections of SR 22.
- As described above, SR 22 is expected to operate acceptably with four lanes with either Alternative 8 or Alternative 17 being built. This is different from the „no-build” scenario where SR 22, between Star Avenue and US 98 would fail even with the four-lane capacity improvement.
- US 98, from east of the Tyndall AFB main entrance to west of CR 386 would operate acceptably at a LOS B in all future years under both Alternative 8 or Alternative 17,, which is better than the adopted LOS C for a two-lane facility. This is in contrast to the “no-build” scenario where this section of US 98 falls below the adopted LOS C, since it will be operating at LOS D starting in the year 2025.
- US 98 (Tyndall Parkway) from west of the Tyndall AFB main entrance to north of Tram Road, as a four-lane facility is expected to fail, starting in the year 2025. In the “no build” scenario and in all future years, US 98 at four-lane capacity is estimated to fail. The presence of either Alternative 8 or Alternative 17 is expected to delay this failure until the year 2025. Both Alternative 8 and Alternative 17 include a capacity improvement on US 98 (Tyndall Parkway) from four lanes to six lanes at the intersections of either Alternative 8 or 17 with US 98 (Tyndall Parkway) near Tram Road, starting in the year 2025.
- US 231 is currently a four-lane facility. In the “no-build” scenario, portions of US 231 will either fall below the recommended LOS C or fail between southwest of CR 390 to east of Star Ave. Depending on the conceptual design layout of the intersection at US 231 with either Alternative 8 or Alternative 17, including the corresponding re-alignments of CR 390 and CR 2321, the need for widening US 231 to six lanes might be delayed until after 2025. At a minimum, the widening of US 231 to six lanes might be delayed until the year 2025 as a result of the construction of the Gulf Coast Parkway Alternative 8 or Alternative 17.
- Star Ave. does not need additional capacity in all future years, with either Alternative 8 or Alternative 17, as is the case in the “no-build” scenario. The facility would only be widened to four lanes when the Gulf Coast Parkway utilizes existing Star Ave. right-of-way.

Table 2-25: Gulf Coast Parkway Traffic Impact on Selected Roadway Segments: Alternative 8 and Alternative 17 Scenarios

Roadway	Segment	Adopted LOS Standard	Year 2011 AADT	Year 2011 LOS	Future No. of Lanes	AADT (Background + Gulf Coast Parkway (GCP) Traffic)												
						Alternative 8						Alternative 17						
						AADT (Background + DRI Traffic)			LOS			Future No. of Lanes	AADT (Background + DRI Traffic)			LOS		
						Year 2012	Year 2025	Year 2035	Year 2012	Year 2025	Year 2035		Year 2012	Year 2025	Year 2035	Year 2012	Year 2025	Year 2035
SR 22	West of SR 71 - Bay Co. line (Gulf Co.)	C	2,800	B	2	3,200	3,900	4,800	B	C	C	2	3,200	3,900	4,800	B	B	C
SR 22	Bay Co. Line - Sandy Creek Rd	C	3,400	B	4	10,000	12,200	14,800	B	B	B	2	3,300	3,400	4,000	B	B	B
SR 22	Sandy Creek Rd - CR 2297 (Allanton Rd.)	D	4,300	B	4	18,200	22,100	26,900	B	B	B	2	4,000	4,200	4,900	B	B	B
SR 22	CR 2297 - Star Ave	D	10,500	C	4	11,000	13,400	16,300	B	B	B	4	11,000	13,400	16,300	B	B	B
SR 22	Star Ave - US 98	D	18,500	D	4	18,200	22,100	26,900	B	B	B	4	18,200	22,100	26,900	B	B	B
SR 22	West of US 98	D	11,300	C	2	10,300	12,500	15,200	B	B	B	2	10,300	12,500	15,200	B	B	B
US 98	Gulf Co., East of CR 386	C	10,000	C	2	12,980	15,852	19,165	C	<i>D</i>	<i>D</i>	2	12,980	15,852	19,165	C	<i>D</i>	<i>D</i>
US 98	CR 386 – Tyndall AFB	C	9,200	C	2	5,000	6,100	7,500	B	B	B	2	5,000	6,100	7,500	B	B	B
US 98	Tyndall AFB - SR 22	D	34,600	D	4	33,000	39,000	50,500	C	D	F	4	33,000	39,000	50,500	C	D	F
US 98	SR 22 - Tram Rd	D	35,850	B	6	34,400	41,900	51,000	B	B	C	6	34,400	41,900	51,000	B	B	C
US 98	Tram Rd - Transmitter Rd	D	31,600	C	6	34,500	42,000	51,200	B	B	C	6	34,500	42,000	51,200	B	B	C
US 231	Transmitter Rd - CR 390	C	25,800	B	6	30,300	36,971	45,085	B	B	B	6	30,300	36,971	45,085	B	B	B
US 231	CR 390 - Star Ave	C	30,400	C	6	36,262	44,296	54,011	B	B	C	6	36,262	44,296	54,011	B	B	C
US 231	Star Ave to the east	C	29,300	B	6	36,262	44,296	54,011	B	B	C	6	36,262	44,296	54,011	B	B	C
Star Ave	SR 22 - Tram Rd	D	7,900	B	2	6,688	8,109	9,936	B	B	C	2	6,688	8,109	9,936	B	B	C
Star Ave	Tram Rd - US 231	D	8,300	B	4	9,814	11,943	14,543	B	B	B	4	9,814	11,943	14,543	B	B	B

Notes:
 1. Assuming SR 22 widened to 4 lanes between US 98 (Tyndall Pkwy) to east of Star Ave. and that it is Urban with an Urban Typical Section
 LOS letter grades in **BOLD** are failing grades; in *ITALIC* represent worse than the adopted LOS for that facility or segment
 Source: Atkins calculations

Table 2-25 presents the results of the analysis of Alternatives 14, 15 and 19 impacts on traffic on the same facilities. This analysis was done prior to the inclusion of the Tram Road connection to US 98 (Tyndall Parkway) in these alternatives. The following points can be made:

- SR 22 as a two-lane facility would operate acceptably in Gulf County with Alternatives 14, 15 or 19. In Bay County, Alternatives 14 and 15 intersect SR 22 near the Gulf County line and either follow the SR 22 existing alignment (Alternative 14) or just cross it and continues north (Alternative 15). In both cases, it was estimated that SR 22 would continue to operate at the adopted LOS C (or D further west) or better, east and west of the Gulf Coast Parkway alternative alignment. However, closer to Star Ave. and especially between Star Ave. and US 98 (Tyndall Parkway) both Alternatives 14 and 15 require the widening of SR 22 to four lanes as in all other scenarios previously discussed. Traffic diversion to the Gulf Coast Parkway is not enough to solve the operational failure of SR 22 east of US 98 (Tyndall Parkway), even with the widening of SR 22 to four lanes, in the design year 2035, this section must also be designated as an urban area and improved with a 4-lane urban typical section. In this regard, the situation is similar to the “no-build” scenario.
- Alternative 19 crosses SR 22 further west than Alternatives 14 or 15. Similar to those alternatives, it does not divert enough traffic to provide relief to SR 22 between Star Avenue and US 98 (Tyndall Parkway), and also requires that this portion of SR 22 be designated as an urban area and improved with a 4-lane urban typical section.
- US 98, from east of the Tyndall AFB main entrance to west of CR 386 with Alternatives 14, 15, and 19 would operate at LOS B, which is better in all future years than the adopted LOS C for a two-lane facility. Again, this is in contrast to the “no-build” scenario where this section of US 98 falls below the adopted LOS C, since it will be operating at LOS D starting in the year 2025.
- US 98 (Tyndall Parkway) from west of the Tyndall AFB to north of Tram Road, as a four-lane facility is expected to fail, starting in the year 2025. In the “no build” scenario and in all future years, US 98 (Tyndall Parkway) with four-lane capacity is estimated to fail. Similar to other Gulf Coast Parkway alternatives, the presence of either Alternatives 14, 15, or 19 is expected to delay the failure of a four-lane US 98 (Tyndall Parkway) until the year 2025.
- US 231 is currently a four-lane facility. In the “no-build” scenario, portions of US 231 would either fall below the recommended LOS C or fail between southwest of CR 390 to east of Star Avenue. All of the alternatives (14, 15 or 19) intersect US 231 east of Star Avenue (actually east of CR 2301) a couple of miles or more, at which point there are no operational issues on US 231, southwest or northeast, of the proposed intersection with the respective Gulf Coast Parkway alignments. These alternatives do not have an impact on US 231 operations near CR 390 or Star Avenue, which would still fail with the existing four lanes no matter which of Alternatives 14, 15, or 19 is finally built.
- Star Avenue does not need additional capacity in all future years, with either Alternatives 14, 15, or 19, as is the case in the “no-build” scenario. A two-lane Star Avenue might operate at LOS B or LOS C, which are better than the adopted LOS D for that facility.

Table 2-26: Gulf Coast Parkway Traffic Impact on Selected Roadway Segments: Alternatives 14, 15, and 19 Scenarios

Roadway		Segment Limits		AADT (Background + GCP Traffic)																										
				Alternative 14												Alternative 15							Alternative 19							
				AADT (Background + DRI Traffic)						LOS		AADT (Background + DRI Traffic)						LOS		AADT (Background + DRI Traffic)						LOS				
				Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS
Adopted LOS Standard	Year 2011 AADT	Year 2011 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS	Future No. of Lanes	Year 2012	Year 2025	Year 2035	Year 2012 LOS	Year 2025 LOS	Year 2035 LOS
SR 22	West of SR 71 - Bay Co. line (Gulf Co.)	C	2,800	B	2	3,200	3,900	4,800	B	C	C	2	3,200	3,900	4,800	B	C	C	2	3,200	3,900	4,800	B	B	C					
SR 22	Bay Co. Line - Sandy Creek Rd	C	3,400	B	4	12,000	14,200	16,800	C	C	C	2	10,000	12,200	14,800	C	C	C	2	3,300	3,400	4,000	B	B	B					
SR 22	Sandy Creek Rd - CR 2297 (Allanton Rd.)	D	4,300	B	2	16,200	20,100	24,900	C	C	D	2	16,200	20,100	24,900	C	C	D	2	4,000	4,200	4,900	B	B	B					
SR 22	CR 2297 - Star Ave	D	10,500	C	4	10,000	12,400	15,300	B	B	B	4	10,000	12,400	15,300	B	B	B	4	11,000	13,400	16,300	B	B	B					
SR 22	Star Ave - US 98	D	18,500	B	4	16,200	20,100	24,900	B	B	B	4	16,200	20,100	24,900	B	B	B	4	18,200	22,100	26,900	B	B	B					
SR 22	West of US 98	D	11,300	C	2	9,300	11,500	14,200	B	B	B	4	9,300	11,500	14,200	B	B	B	4	10,300	12,500	15,200	B	B	B					
US 98	Gulf Co., East of CR 386	C	10,000	C	2	12,980	15,852	19,165	C	D	D	2	12,980	15,852	19,165	C	D	D	2	12,980	15,852	19,165	C	D	D					
US 98	CR 386 – Tyndall AFB	C	9,200	C	2	5,000	6,100	7,500	B	B	B	2	5,000	6,100	7,500	B	B	B	2	5,000	6,100	7,500	B	B	B					
US 98	Tyndall AFB - SR 22	D	34,600	D	4	33,000	39,000	50,500	C	F	F	4	33,000	39,000	50,500	C	F	F	4	33,000	39,000	50,500	C	F	F					
US 98	SR 22 - Tram Rd	D	35,850	F	4	34,400	41,900	51,000	C	F	F	4	34,400	41,900	51,000	C	F	F	4	34,400	41,900	51,000	C	F	F					
US 98	Tram Rd - Transmitter Rd	D	31,600	C	4	34,500	42,000	51,200	C	F	F	4	34,500	42,000	51,200	C	F	F	4	34,500	42,000	51,200	C	F	F					
US 231	Transmitter Rd - CR 390	C	25,800	B	4	30,300	36,971	45,085	C	D	F	4	30,300	36,971	45,085	C	D	F	4	30,300	36,971	45,085	C	D	F					
US 231	CR 390 - Star Ave	C	30,400	B	4	36,262	44,296	54,011	D	F	F	4	36,262	44,296	54,011	D	F	F	4	36,262	44,296	54,011	D	F	F					
US 231	Star Ave to the east	C	29,300	B	4	34,262	42,296	52,011	D	F	F	4	34,262	42,296	52,011	D	F	F	4	36,262	44,296	54,011	D	F	F					
Star Ave	SR 22 - Tram Rd	D	7,900	C	2	5,688	7,109	8,936	B	B	B	2	5,688	7,109	8,936	B	B	B	2	5,688	7,109	8,936	B	B	B					
Star Ave	Tram Rd - US 231	D	83,00	C	2	8,814	10,943	13,543	C	C	C	2	8,814	10,943	13,543	C	C	C	2	8,814	10,943	13,543	C	C	C					

Notes:
1. Assuming SR 22 widened to 4 lanes between US 98 (Tyndall Pkwy) to east of Star Ave. and that it is Urban with an Urban Typical Section
LOS letter grades in BOLD are failing grades; in *ITALIC* represent worse than the adopted LOS for that facility or segment
Source: Atkins calculations

Table 2-26 provides a comparison of the performance of all the alternatives, including the No- Build Alternative, in improving mobility on the principal roadway segments in the study area. This table includes the performance of Alternatives 14, 15, and 19 with the Tram Road connection.

Based on the information presented in **Table 2-26**, it can be concluded that Alternatives 8 and 17 perform best in improving mobility. Under Alternatives 8 and 17 all road segments, except for the segment of US 98 in Gulf County to east of CR 386 and the segment of US 98 from Tyndall AFB to SR 22, would operate at LOS C or better. The following summarizes the road segments that would experience improvement in LOS.

All the Build Alternatives improve LOS over the No Build Alternative at the following locations:

- SR 22 from Star Avenue to US 98 in all years,
- SR 22 west of US 98 in all years,
- SR 22 from CR 2297 to Star Avenue in all years,
- US 98 from CR 386 to Tyndall AFB in all years,
- US 98 from Tyndall AFB to SR 22 in 2012, and
- US 231 from Star Avenue to east in all years.

Alternative 8 and Alternative 17 also improve the LOS over the No Build Alternative and Alternatives 14, 15, and 19 at the following locations:

- SR 22 from Sandy Creek Road to CR 2297 in all years,
- US 231 from Transmitter Road to CR 390 in all years,
- US 231 from CR 390 to Star Avenue in all years,
- US 98 from SR 22 to Tram Road in all years,
- US 98 from Tram Road to Transmitter Road in all years, and
- Star Avenue from Tram Road to US 231 in all years

Alternatives 14 and 19 improve LOS over the No Build Alternative at the following location:

- Star Avenue from SR 22 to Tram Road in all years.

Alternatives 14 and 19 improve LOS over Alternatives 8, 15, and 17 at the following location:

- Star Avenue from SR 22 to Tram Road in 2035.

Table 2-27: Summary of Gulf Coast Parkway Alternatives' LOS Effects on Existing Roads

Roadway	Segment	No Build			Alt. 8			Alt. 14			Alt. 15			Alt. 17			Alt. 19		
		2012	2025	2035	2012	2025	2035	2012	2025	2035	2012	2025	2035	2012	2025	2035	2012	2025	2035
SR 22	West of SR 71 - Bay Co. line (Gulf Co.)	B	B	C	B	C	C	B	C	C	B	C	C	B	C	C	B	C	C
SR 22	Bay Co. Line - Sandy Creek Rd	C	C	C	B	B	B	B	B	B	C	C	C	B	B	B	B	B	B
SR 22	Sandy Creek Rd - CR 2297 (Allanton Rd.)	C	C	C	B	B	B	C	C	D	C	C	D	B	B	B	B	B	C
SR 22	CR 2297 - Star Ave	C	D	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 22	Star Ave - US 98	F	F	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 22	West of US 98	C	D	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
US 98	Gulf Co., East of CR 386	C	D	E	C	D	D	C	D	D	C	D	D	C	D	D	C	D	D
US 98	CR 386 - Tyndall AFB	C	D	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
US 98	Tyndall AFB - SR 22	F	F	F	C	D	F	C	F	F	C	F	F	C	D	F	C	F	F
US 98	SR 22 - Tram Rd	F	F	F	B	B	C	C	F	F	C	F	F	B	B	C	C	F	F
US 98	Tram Rd - Transmitter Rd	F	F	F	B	B	C	C	F	F	C	F	F	B	B	C	C	F	F
US 231	Transmitter Rd - CR 390	C	F	F	B	B	B	C	D	F	C	D	F	B	B	B	C	D	F
US 231	CR 390 - Star Ave	C	C	D	B	B	C	D	F	F	D	F	F	B	B	C	D	F	F
US 231	Star Ave to the east	C	C	D	B	B	C	B	B	C	B	B	B	B	B	C	B	B	C
Star Ave	SR 22 - Tram Rd	C	C	C	B	B	C	B	B	B	B	B	C	B	B	C	B	B	B
Star Ave	Tram Rd - US 231	C	C	D	B	B	B	C	C	C	C	C	C	B	B	B	C	C	C

Assumes SR 22 widened to 4 lanes between US 98 (Tyndall Pkwy) to east of Star Ave.

Pink highlight are locations where the alternative performs worse than the No Build Alternative

Green highlight shows LOS D when LOS D is below the adopted standard

Yellow highlight shows LOS F

Source: PBS&J calculations

2.7.5 Evaluation Criteria

The evaluation criteria used to compare alternatives consists of quantifiable and non-quantifiable criteria. The quantifiable evaluation was accomplished with a series of matrices first to determine if there were differences among the alternatives in meeting purpose and need; second to compare alternatives involvement with multitude of categories comprising the socioeconomic, cultural, natural and physical environments, and third to compare the costs (engineering, right of way, and construction) of each alternative. The data in the matrices, which present the results of the PD&E study, were developed by overlaying the conceptual designs for each Build Alternative on raster-based aerial photography and utilizing other appropriate data layers, field verification, and environmental analysis to determine the potential involvement of each alternative. The results of these comparative analyses are presented in **Section 2.6.5**, but for a detailed discussion refer to Section 4 of this document or the supporting technical documents.

In addition, there is the consideration of factors which are qualitative, or non-quantifiable, such as consistency with local transportation plans, LOS during the design year, safety, user benefits, mobility of people and goods, access, economic prosperity, visual and aesthetic issues, and neighborhood. Non-quantifiable factors have intangible values and therefore are less easily represented in tables or matrices. Further, some of the non-quantifiable categories have multiple attributes to be considered (for instance, economic prosperity can be local or regional or both). The detailed discussion of the alternatives' involvement with these issues is also presented in Section 4 of this document.

2.7.5.1 Purpose and Need Evaluation Criteria

The following section provides a brief discussion on the methodology used for evaluating each Purpose and Need Criteria.

Reduced Travel Times: A description of the methods used to estimate travel times and distances is given in the following paragraphs. To determine whether a proposed corridor would meet the criteria of reducing travel times, the calculated travel time for the proposed alignment was compared to the actual travel time for the existing routes. The actual times were measured by traveling the existing routes during morning and afternoon peak-hour traffic times, using an accepted traffic engineering methodology.

Once the time to travel the existing routes was established these amounts were given a value of 1. Each proposed alignment's time to reach the respective destinations was then calculated as a percentage of the existing routes. Therefore a proposed alignment was measured for its performance in achieving the Purpose and Need Criteria by how much it's time value was less than 1. The existing routes traveled were:

To Employment in Panama City:

From CR 386 west on US 98 through Tyndall AFB, across the DuPont Bridge to the intersection of US 98/CR 391/US 231/SR 75 (Harrison Avenue), then south on SR 75 to 11th Street.

To IDC:

From CR 386 west on US 98 through Tyndall AFB, across the DuPont Bridge to US 231, and along US 231 to the entrance to the IDC (freight transfer facilities) at Bayline Road.

To NWFBIA:

From CR 386 west on US 98 through Tyndall AFB, across the DuPont Bridge to US 231, and along US 231 to CR 2321, along CR 2321 to SR 77, along SR 77 to CR 388, and then along CR 388 to the entrance to the proposed airport.

Tourist Route:

From the Bayline Road and US 231 intersection south to the intersection of US 231 and US 98, east on US 98 (15th Street/Tyndall Parkway), then south across the DuPont Bridge, through the Tyndall AFB to CR 386.

Again, the time to travel the proposed routes is shown as a percentage of 1. The routes selected for calculating the Alternative Alignments' travel times are described as follows:

To Employment in Panama City: The intersection of 11th Street and SR 75 (Harrison Avenue) was selected as the destination for an employment center in Panama City based on it being approximately in the center, geographically, of the Central Business District. The route taken to this location was provided by traffic engineers who noted that traffic would follow US 98 to SR 75 (Harrison Avenue) to 11th Street, rather than travel from US 98 to 11th Street to SR 75 (Harrison Avenue). This assessment was made because much of 11th Street west of US 98 (Tyndall Parkway) is through a residential area with many cross streets.

Travel time to the SR 75 (Harrison Avenue)/ 11th Street intersection was calculated for the alternative alignments based on the time it took to travel along the proposed corridor to Tram Road, then west on Tram Road to US 98, west on US 98 to the intersection of US 98/CR 391/US 231/SR 75 (Harrison Avenue), then south along SR 75 (Harrison Avenue) to 11th Street.

To the Bay County IDC: Travel time to the IDC (freight transfer facilities) was based on traveling the proposed alignments to US 231 and along US 231, to the entrance to the IDC, at Bayline Road.

To the NWFBIA: Travel time to the NWFBIA airport was based on traveling the proposed alignment to its intersection with US 231 and from the proposed alignment's intersection with US 231 to CR 2321 and from CR 2321 to SR 77, along SR 77 to CR 388, and along CR 388 to the entrance of the NWFBIA.

Travel times for tourists were based on the time it would take to travel from the intersection of Bayline Road and US 231 to the intersection of CR 386 with US 98 on the proposed corridor.

Access to Enterprise Zones: Enterprise zones in Gulf County have been designated along US 98 and CR 386. These are designated by the Office of Tourism, Trade, and Economic Development of the Executive Office of the Governor and are located in areas of the state where high poverty rates and little economic growth persist. All of the proposed alignments improve the connection between the enterprise zones and US 231 by avoiding the congestion on Tyndall Parkway (US 98) and in Panama City. Travel times were not calculated because the enterprise zones were so large; however, for enterprise zones along CR 386, particularly in the vicinity of Overstreet, the amount of acres of right-of-way that would have involvement through the Enterprise Zones was calculated. The greater the acreage the better the alignment performed.

Relieve Congestion on Existing Roadways: Improved roadway capacity was based on an improved level-of-service on specific roadway segments (US 98, US 231, SR 22, and Star Avenue) as compared to the level-of-service on those segments under existing conditions. In order to determine the comparative performance of each of the alignments the total amount of roadway sections (along US 98, US 231, SR 22, and Star Avenue) that will experience an improved level-of-service in the design year over the no-

build condition were counted. This information was carried over from **Table 2-26: Summary of Gulf Coast Parkway Alternatives' LOS Effects on Existing Roadways.**

Reduce Distance Traveled: Improving the security for Tyndall AFB was based on distance traveled. The existing route was measured based on the detour route which would need to be taken if US 98 through Tyndall AFB was closed. This route would be US 98 to SR 71 into Wewahitchka; then along SR 22 west back to US 98 (Tyndall Parkway). As with the methodology for travel times, the existing detour route distance was then set to a value of 1, all of the alignment distances were then measured as a percentage of the existing detour route. Therefore an alignment was measured for its performance in achieving this Purpose and Need Criteria by how much its distance value was less than 1. The distance traveled was measured for the alignments utilizing the alignments themselves to their intersection with US 98 at Tram Road.

Improved Emergency Evacuation Route: Currently, evacuation out of coastal Gulf County is accomplished by traveling US 98 to SR 71, or US 98 to CR 386 to SR 71. In southeast Bay County, evacuees travel US 98 through Tyndall AFB, across the high-level DuPont Bridge, continuing north and west on US 98 to US 231.

While all alternative alignments provide improved hurricane evacuation, the further north each alignment's connection was with US 231 the better it improves emergency evacuation. This was determined since the further north along US 231 the connection, the less involvement there would be with congestion on the segments of US 231 closer to Panama City; and therefore the quicker evacuees are able to move away from the storm surge zones and coastal high hazard areas and onto I-10.

Additional consideration was given for those alignments that had a more direct (shorter) route from US 98 and CR 386 in Gulf County to US 231 in Bay County, which are specifically Alignments 17 and 19. Since the shorter route will provide a quicker travel time to US 231, this will also improve hurricane evacuation times.

2.7.5.2 Social, Physical, and Natural Environmental Evaluation Criteria

The specific sources for the information are identified below. All of the data used to analyze these environmental issues were initially gathered using GIS information, and then confirmed through field-based verification efforts. Where field information indicated differences with the GIS data, the field data were utilized. The evaluation of environmental impacts for each resource is discussed in more detail in Section 4. In addition, individual technical reports were prepared to further document the environmental process and required agency coordination. **Tables 2-27 through 2-30** show each of the evaluation criteria by category.

Table 2-28: Social Environment Impacts Evaluation Criteria

Criteria	Source	Year
Religious Centers	Florida Geographic Data Library ²² (FGDL)	2009
Historical Sites	FGDL, PBS&J, and Florida Master Site File (FMSF) ²³	2005 & 2009
Historical Structures	FGDL, PBS&J, FMSF	2005 & 2009
Fire Stations (250' buffer)	FGDL	2007
Schools (250' buffer)	FGDL	2008
Cemeteries (250' buffer)	FMSF, PBS&J	2008 - 2009
Parks (250' buffer)	FGDL	2008
Health Care Facilities	FGDL	2005
Public Lands	FGDL, Florida Natural Areas Inventory (FNAI)	2009

All of the criteria evaluated for social environmental impacts were field verified and refined as necessary. Those criteria that did not have any involvement with any of the alignments are not included in the summary evaluation matrix. The following list summarizes each data set that is identified in **Table 2-27**.

Religious Centers - This data set contains 2009 Religious Center Facility information for the State of Florida. It is a combination of churches, temples, synagogues, mosques, chapels, centers and other types of religious facilities, from data sources including county specific religious locations, and SuperPage religious address locations, etc.

Historic Sites – This data set contains historic site locations and attributes as recorded at the FMSF. This dataset was then evaluated at a more detailed level through a Phase I cultural resources survey performed for this project during 2008 – 2010 with the Cultural Resources Assessment Survey completed and submitted to the State Historic Preservation Officer (SHPO) in November 2010.

Historic Structures - This data set contains historic structure locations and attributes as recorded at the FMSF. This dataset was then evaluated at a more detailed level through a Phase I cultural resources survey performed for this project during 2008 – 2010 with the Cultural Resources Assessment Survey completed and submitted to the SHPO in November 2010.

Fire Stations - This data set is the 2008 Fire Station and Rescue Station information for the State of Florida. It is a combination of fire and rescue station addresses from 46 different sources.

Schools - This data set contains 2008 Private and Public School information for the State of Florida. It is a combination of school and educational facility addresses from 68 sources.

Cemeteries - This data set contains historic cemetery boundaries and basic cemetery attributes as recorded at the FMSF. This dataset was then evaluated at a more detailed level through a Phase I cultural resources survey performed for this project during 2008 – 2009.

Parks - This data set contains 2009 Parks and Recreational Facilities Information for the State of Florida. It is a combination of parks and recreational facility addresses from 43 different sources.

Health Care Facilities - This data set contains 2009 Health Care Facility Information for the State of Florida. It is a combination of health care facilities (Abortion Clinic, Dialysis Clinic, Medical Doctor, Nursing Home, Osteopath, State Laboratory/Clinic, and Surgicenter/Walk-In Clinic) from the Florida Department of Health.

Public Lands - This layer contains all Florida Managed Areas data by FNAI that are managed by the State, Local, or Federal government (note: some of these lands may be owned by Private Individual(s)). The FNAI has identified these lands as having natural resource value and as lands that are being managed at least partially for conservation purposes.

Table 2-29: Physical Environment Impacts Evaluation Criteria

Criteria	Source	Year
Noise	Atkins Field Data	2012
Air	COFlorida 2012	2012
Contamination	Atkins/Preble Rish Field Data	2009
Right-of-Way	Atkins	2012
Residential Relocation	Atkins	2012
Business Relocation	Atkins	2012

All of the criteria for physical environmental impacts were field verified and refined as necessary. Those criteria that did not have any involvement with any of the segments/alignments are not included in the summary evaluation matrix. The following list summarizes each data set that is identified in **Table 2-28**.

Noise – This data provides an estimation of the number of noise sensitive receivers that will be impacted by the project and was obtained through field evaluation, aerial photography analysis, development plans search, and county property appraiser data.

Air – This data provides an estimation of any area where there will be air quality impacts due to the project and is obtained through the use of the FDOT COFlorida 2012 screening model.

Contamination – This data provides an estimation of the number of contaminated sites that could have involvement with the project. A *Contamination Screening Evaluation Report*²⁴ was prepared for this project and as a part of that analysis over 61 databases were searched to identify contamination sites in the study area. The results of that search were then field validated to obtain the actual numbers of sites identified for involvement with the project segments.

Right of Way – This data provides an estimation of the amount of parcel areas that will be impacted by each segment. This information was calculated using aerial photography and county property appraiser data, and was then field verified.

Residential Relocation - This data provides an estimation of the amount of residences that will need to be relocated due to impacts by each segment. This information was calculated using aerial photography and county property appraiser data, and was then field verified.

Business Relocation - This data provides an estimation of the amount of businesses that will need to be relocated due to impacts by each segment. This information was calculated using aerial photography and county property appraiser data, and was then field verified.

Table 2-30: Natural Environment Impacts Evaluation Criteria

Criteria	Source	Year
Black Bear Kills	Florida Fish and Wildlife Conservation Commission (FFWCC)	2006
FNAI Managed Lands	FNAI	2009
FNAI Element Occurrence (EO) Data	FNAI	2009
FNAI Rare Species Habitat Conservation Priorities	FNAI	2009
Critical Lands and Waters Identification Project (CLIP) Data	FNAI, FFWCC	2009
Biodiversity Hotspots	FFWCC	2005
The Nature Conservancy (TNC) Ecological Areas	TNC	1999
Integrated Wildlife Habitat Ranking System	FFWCC	2008
Priority Wetlands	FFWCC	2008
NHD Waterbodies	USGS	2011
Surface Water Class Boundaries	FDEP	2011
Floodplains	Federal Emergency Management Agency (FEMA)	2009
Wetlands	Atkins	2009
Endangered Species Seasonal Surveys	Atkins	2007-2009
Panama City Crayfish (Occurrences)	FFWCC	2009
Panama City Crayfish (Range)	FFWCC	2009
Conservation/Mitigation Lands	Various Sources	2009

All of the criteria for natural environmental impacts were field verified and refined as necessary. Those criteria that did not have any involvement with any of the segments/alignments are not included in the summary evaluation matrix. The following list summarizes each data set identified in **Table 2-29**.

Black Bear Kills - This dataset contains the locations of Florida black bear (*Ursus americanus floridanus*) roadkills within the State of Florida from 1976-2008, maintained by the FFWCC.

FNAI Managed Lands - This is a polygon data layer for public (and some private) lands that FNAI has identified as having natural resource value and that are being managed at least partially for conservation.

FNAI EO Data - This is a point data layer locating the occurrences of endangered or rare plants and animals, high quality natural communities and other occurrences of natural resource interest in the FNAI database. An "Element" is any exemplary or rare component of the natural environment, such as a species, plant community, bird rookery, spring, sinkhole, cave or other ecological feature. An "EO" represents the locational record of an element and is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular natural community.

FNAI Rare Species Habitat Conservation Priorities - The data layer prioritizes places on the landscape that would protect both the greatest number of rare species and those species with the greatest conservation need.

CLIP Data - The aggregated CLIP Priorities layer includes five priority levels depicting conservation significance for protecting biodiversity, landscape attributes, and high-quality surface water resources at the statewide scale. The five priority levels are based on rules-based selection from each of the nine core

data layers within the Biodiversity, Surface Water, and Landscape Resource Categories and overlap between the Biodiversity, Surface Water, and Landscape Resource Categories

The aggregated CLIP Priorities layer is one of several decision support tools for identifying important opportunities to protect Florida's essential ecosystems. It is also used for informing the work of the Century Commission for a Sustainable Florida and the FFWCC Cooperative Conservation Blueprint, and it may be suitable as a resource planning guide for various state, regional, and local entities interested in effective natural resource protection and management. While other planning efforts have focused on particular resources, CLIP is intended to provide a broad synthesis of natural resource GIS data to support comprehensive identification of statewide conservation opportunities.

Although all priority levels have significance, the most important priorities are CLIP Priority 1 and CLIP Priority 2. CLIP Priority 3 can be considered moderate priority at the statewide scale. CLIP Priority 5 primarily includes broader watersheds with relevance from a cumulative impact perspective for protecting important watersheds identified in the Significant Surface Waters core data layer.

Biodiversity Hotspots - This is a "hot spot" data set representing biological diversity, created by aggregation of predictive habitat maps for wading birds, important natural communities, and 44 focal species. It also includes known species and community locations.

TNC Ecological Areas - This data set contains priority ecological resource areas as identified by the workshop of January 1991 sponsored by TNC, Florida Audubon Society and the Department of Natural Resources.

Integrated Wildlife Habitat Ranking System - This data contains the final model results from the Integrated Wildlife Habitat Ranking System, a process for identification and ranking of landscape level habitat areas which are important to a broad array of wildlife species. The ranking system provides a scored map which depicts habitat values ranging from 1 to 10 based on a composite score of many important variables which collectively represent quality habitat. The higher the habitat score, the higher the quality of habitat.

Priority Wetlands - Wetland species "hot spot" data set created by aggregating predictive habitat maps for 35 listed wetland-dependent taxa.

NHD Waterbodies - This data set contains the spatial extent of water bodies for the NHD in the State of Florida. These features represent areas that contain water such as lake/pond, swamp/marsh, stream/river, canal/ditch, area of complex channels, estuary, ice mass, playa, reservoir, sea/ocean, and wash.

Surface Water Class Boundaries - This data set contains the spatial extent of Class I and II Surface Water Classification Boundaries. The Clean Water Act requires that the surface waters of each state be classified according to designated uses. Florida has five classes with associated designated uses, which are arranged in order of degree of protection required with the greatest protection provided to Class I waters. Class I - Potable Water Supplies are used as a drinking water supply. Class II - Shellfish Propagation or Harvesting are generally coastal waters where shellfish harvesting occurs.

Floodplains - This data set contains information about the flood hazards within the study area. These zones are used by the FEMA to designate the Special Flood Hazard Area and for insurance rating purposes. These data are the flood hazard areas that are or will be depicted on the Flood Insurance Rate Map (FIRM).

Wetlands – This data set contains field-validated information about the wetlands habitat within the study area in terms of amount, type, and quality of wetlands. This data set was developed for the analysis in the Wetland Evaluation Report (WER) conducted for the Gulf Coast Parkway. For further information about the methodology, please see the Gulf Coast Parkway WER.

Endangered Species Seasonal Surveys - This data set contains field-validated information used in combination with FNAI Occurrence Data and USFWS species data on endangered species and/or habitat within the study area. The field data set was obtained during each season for the Endangered Species Biological Assessment Report (ESBAR) conducted for the Gulf Coast Parkway. Dataset represents the estimated number of listed (state and federal) species that were determined in coordination with the USFWS to have a May Affect, But Not Likely to Adversely Affect impact finding. For further information about the methodology used, please see the Gulf Coast Parkway ESBAR.

Panama City Crayfish (occurrences) - This shapefile shows locations where Panama City crayfish (*Procambarus econfinae*) were observed during field surveys.

Panama City Crayfish (Range) - This shapefile shows the approximate range of the Panama City crayfish. This approximate range was created to assist with the FFWCC's activities related to the Panama City crayfish Biological Review Panel and the Panama City crayfish Management Plan. This data set was also created to assist with the USFWS's Candidate Conservation Agreement for the crayfish.

Conservation/Mitigation Lands – This data set is the aggregate of conservation and mitigation boundaries identified within different sources including: Public Lands 2009, Florida Forever Lands 2009, Aquatic Preserves 2008, as well as Bay and Gulf Counties' Future Land Use Files.

2.7.5.3 Estimated Project Costs

The total project costs reflect the estimated engineering costs, construction costs, and right-of-way costs required for the project alternatives. The engineering costs were calculated as a percentage of the roadway and bridge construction costs. The roadway and bridge construction costs were calculated using FDOT Long Range Estimate (LRE) methodology of per lane mile costs for roadways and per square foot costs for bridges. The right-of-way costs were calculated using current market values and include land, site improvements, business damages, relocations, and other administrative costs. The estimated costs of the Build Alternatives are summarized in **Table 2-35** from the series of category ranking tables (**Tables 33-37**) in the next section. Supporting documentation for the construction and right-of-way cost estimates are included in the *Gulf Coast Parkway Preliminary Engineering Report*.

2.7.5.4 Public and Agency Participation

Local governments, resource agencies, non-governmental organizations, stakeholders, and the public have been involved in the project from the very beginning in 2005 and at various stages of the project's development up to and including the preparation of this document. The input provided by these groups has been a vital part of the identification of alternatives and the evaluation of impacts at various stages throughout this study (described in **Section 5** of this report). Coordination with these groups will continue to be solicited as the project progresses through the public hearing and preparation of the FEIS/ROD.

2.7.5.5 Non-quantifiable Criteria

Non-quantifiable criteria include consistency with local transportation plans, LOS during the design year, safety, user benefits, mobility of people and goods, access, economic prosperity, visual and aesthetic issues, and neighborhood enhancement.

Table 2-31: Non-quantifiable Criteria

Criterion	Description
Transportation Plans	Is the project included in local planning documents such as the local TPO's LRTP and the traffic element of the local government's comprehensive plan?
LOS in the Design Year	Will the required LOS through the project's Design Year?
Safety	Will the proposed improvements enhance the safety of the users of the facility? Users may be motorists, pedestrians and/or bicyclists. The project's attributes are assessed to determine what safety improvements will be provided.
User Benefits	Will the proposed improvement provide direct and/or indirect user benefits? Direct benefits include decreased travel times, ease of access, reduced travel costs, improved safety, etc. Indirect benefits include monetary benefits of both users and non-users. These may include improved locational accessibility, reduced costs for goods and services, increased income due to selling goods and services to outsiders, etc.
Mobility of People and Goods	Does the project contribute to the improvement in the mobility of people and goods? This ability can be assessed on a limited basis within the project corridor or on a regional scale. The project's improvement in mobility and the scale at which the improvement is assessed depends on the scale of the project.
Access	How does the project affect access and is it an improvement? Accessibility can be location specific within the project boundaries or can be the result of the proposed facility's ability to provide improved access to resources beyond the project's limits.
Economic Prosperity	Does the project provide economic benefits? This usually is an area-wide benefit accounted for by improved accessibility and reduced travel times and costs. How much a project contributes to an area's economic prosperity often depends on the scale of the project and other factors that may be present in the area.
Neighborhood Enhancement	Does the proposed project provide neighborhood enhancement? How well a project provides benefits to neighborhoods in a project area often depends on the type of improvement under consideration. Interstate projects offer little in the way of neighborhood improvements; however, local roadway projects can provide improvements with landscaping, changes in access, consistency with local planning efforts to manage growth and maintain the community's vision for the area.

2.7.6 Alternatives Evaluation Methodology

The evaluation of alternatives involved a comparison of each alternative's involvement with the socioeconomic, cultural, natural, and physical environments of the study area. This analysis was based on the full four-lane typical section. The selection of datasets for inclusion in this analysis was accomplished through coordination with the ETAT and particularly the cooperating agencies for this study. Most data identified by the cooperating agencies are GIS desktop level information. However, the data for sensitive resources such as wetlands, listed and endangered species, noise, contamination, cultural and historic impacts, as well as right-of-way and relocation information, were all field-evaluated.

Because of the large number of issues involved and the variation in the alternative alignments, some alternatives avoid impacts better than others for one specific issue while performing worse in regards to a different issue, making the evaluation of alternatives complex and the justification for the selection of a

particular alternative difficult. Likewise, the alternatives' ability to satisfy the purpose and need, minimize cost, ensure the most efficient traffic operations, and be publicly acceptable also factor into the decision. Therefore, a two-step methodology for quantifying and comparing the alternatives' was developed.

The first step (Category Evaluation) compared how well each alternative performed in each of four Evaluation Categories (purpose and need, environmental, cost, and public preference). The second step (Overall Performance Evaluation) compared how well each alternative performed when their Category Performance Ranks were combined. To assist in understanding the explanation of the evaluation process, which is described below, **Table 2-31** explains the various terms used to describe the evaluation process.

Table 2-32: Evaluation Procedure Definitions

Terms	Definition
Categories	These are the four categories under which each alternative is evaluated
Criteria	Each Category has criteria that are characteristic of the category. For instance, the Environmental Category includes criteria such as relocations, wetland impacts, floodplain impacts, etc.
Criterion Rank	A Criterion Rank represents how well, or poorly, an alternative performed (or ranked) when compared to the other alternatives. The ranks range from 1 (best) to 6 (worst) because there are six alternatives, including the No Build Alternative.
Category Score	The sum of an alternative's Criterion Ranks within a Category.
Category Rank	The Category Rank represents an alternative's performance compared to the other alternatives in the Category. The Category Rank is obtained by ranking each alternative's Category Score from 1 (best) to 6 (worst) to determine how an alternative performed in that Category.
Combined Performance Score	The total of an alternative's four Category Ranks.
Overall Rank	How well an alternative's Overall Performance Score compared to the other alternatives' Overall Performance Scores.

The Category Evaluation procedure was, as follows: Four Categories (purpose and need, environment, cost, and public preference), shown in **Tables 2-32 to 2-35**, were identified for comparing the alternatives. Each Category has a set of Criteria that by which an alternative's involvement could be measured and compared. That measure may be expressed as a percentage, AADT, acres, number of sites, etc. depending on what is the appropriate unit of measure for that particular Criterion. The expression of that measure represents the alternative's involvement with, or impact on, the criterion.

Each alternative's involvement with a particular Criterion is calculated and then compared to the other alternatives so that it can be ranked from 1 (best) to 6 (worst). This ranking is shown in the second column under the Criterion in the Category tables.

The alternatives are calculated and ranked for all the Criteria, and then the ranks are totaled across the Category to obtain an overall Category Score (second to last column in each Category table). The alternatives' Category Scores are then ranked from 1 (best) to 6 (worst) to provide the Category Rank which is shown in the last column in each Category table. The Category Rank reflects the alternatives' performance in comparison to each other in a particular Category.

While it is important to consider each alternative's involvement at the criterion level determining an overall assessment of an alternative's performance from this perspective is not possible. This is mainly because the number of Criteria in each Category is not equal and this creates unequal weight between the

Categories. Therefore, to ensure that equal consideration was given to each Category, an Overall Performance evaluation was conducted.

The Overall Performance evaluation was based on a comparison of each alternative's performance when the four Category Rankings were combined. **Table 2-37** shows each alternative's Category Scores (left column under the Evaluation Category) and Category Rankings (right column under the Evaluation Category) for each Category. The Category Rankings in each Category are totaled to determine the alternatives' Combined Performance Score (column second from right). The Combined Performance Scores are then ranked from 1 (best) to 6 (worst) to obtain the alternatives' Overall Rank (last column in **Table 2-37**).

2.7.7 Summary of Alternatives Comparative Evaluation

Table 2-33 through **Table 2-37** presents the comparison of alternatives. These matrices do not take into account mitigation measures that will be employed to offset impacts because mitigation costs are included in the estimated costs and because mitigation would be applied to the impacts of all build alternatives. The following discussion summarizes the alternatives performance in each of the four evaluation categories.

Purpose and Need Evaluation Category

All alternatives meet the project's purpose and need; however, due to the disparate nature of the many purposes and needs the alternatives do not perform the same. In order to determine which alternative(s) performed best in meeting the project's purposes and needs, the alternatives were ranked based on their performance in meeting each of several criteria. An alternative's ranks under each criterion were totaled to obtain a category score for each alternative, including the No Build Alternative. The alternatives' scores were then ranked to determine how the alternatives performed compared to each other in the purpose and need evaluation category (the lowest score is indicative of the best performance). From **Table 2-33**, it can be seen that Alternative 17 had the lowest score (next to last column from right) when all criterion ranks were totaled; therefore, Alternative 17 was ranked first even though Alternative 17 was ranked fourth in meeting the criterion for improvements through enterprise zones and for hurricane evacuation.. It performed equally well with Alternative 8 in meeting the criterion for providing new connection to the roadway network and the criterion for connections to future planned (transportation) projects. It also ranked first in reducing travel times to employment, improving travel time to the NWFBI, improving security of the Tyndall AFB, and shared the first rank with Alternatives 14 and 19 for providing a direct route for tourists to coastal Gulf County.

Environmental Involvement Evaluation Category

The alternatives' performance in the environmental involvement category (**Table 2-34**) was determined in a similar manner; however, in this case there were nineteen criteria by which the alternatives were compared. These criteria were grouped according to natural, physical, cultural, and social environment issues. Within the natural environment, the alternatives' involvement with wildlife species, conservation areas, wetlands, essential fish habitat (EFH), floodplains, and water quality was evaluated. The alternatives' involvement with the physical environment was evaluated based on conflicts with railroads and utilities, potential to cause noise impacts, and involvement with potential contamination sites. Involvement with cultural environment was based on the alternatives' potential for involvement with significant historic or archaeological sites. The alternatives' involvement with the social environment was based on the number of relocations and involvement with community facilities.

Table 2-33: Purpose and Need Performance Category Ranking

	Mobility								Security		Economic Development						Evacuation		Plan Consistency		Results	
Alternatives	Relieve Congestion on Existing Roadways		New Connections to Network Roadways		Reduce Travel Times to Employment in Panama City		Improve Travel Time to NWFBI A		Improve Security of Tyndall AFB by providing a shorter Alternate Route		Improvements Through Enterprise Zones		Provide More Direct Route to Freight Transfer Facilities		Provide Direct Route for Tourists to Coastal Gulf County		Hurricane/ Emergency Evacuation		Connection to Future Planned Projects		Category Score	Category Rank
																	Distance to Connection to US 231**					
	Number of Road Sections Benefited	Rank	Number	Rank	%	Rank	%	Rank	%	Rank	Acres	Rank	%	Rank	%	Rank	Miles	Rank	Yes/No	Rank	Score	Rank
No Build	0	6	0	6	1	6	1	6	1	6	0	6	0	6	0	6	None***	6	N	3	57	6
8	9	1	4	1	0.95	3	0.8	2	0.6	3	92.6	1	0.83	5	0.83	5	3.79	5	Y	1	27	4
14	7	3	3	3	0.95	3	0.84	4	0.6	3	92.6	1	0.67	2	0.67	1	8.15	2	N	3	25	3
15	7	3	3	3	0.95	3	0.91	5	0.6	3	92.6	1	0.78	4	0.78	4	12.45	1	N	3	30	5
17	8	2	4	1	0.88	1	0.76	1	0.54	1	17	4	0.71	3	0.67	1	5.27	4	Y	1	19	1
19	7	3	3	3	0.88	1	0.82	3	0.54	1	17	4	0.65	1	0.67	1	8.15	2	N	3	22	2

*For those Criteria assessed by travel time or distance the existing route was set to equal one; therefore, a proposed alternative met these criteria whenever their travel time or distance was less than the existing route (i.e. less than one).
** While all Build alternatives would provide improved hurricane evacuation, the further north each alternative’s connection with US 231 is, the less involvement there would be with the congestion closer to Panama City; and therefore, the quicker evacuees are able to move away from the storm surge zones and coastal high hazard areas.
***The existing route has no direct connection to US 231.

Table 2-34: Environmental Involvement Category Ranking

	Species						Conservation		Wetlands				EFH		Floodplains				Water Quality					
Alternatives	Black Bear Kills		Panama City Crayfish Range		Field Surveyed Threatened and Endangered Species		Conservation Areas		Florida Land Use, Cover Forms Classification System (FLUCFCS)* Field Evaluated Wetlands		Preliminary Uniform Mitigation Assessment Methodology (UMAM)		Involvement with Emergent Marsh		100-Year Floodplains (FEMA & Digital Flood Insurance Rate Map (DFIRM)		Longitudinal Encroachments		Class 1 Drainage Basins		Verified Impaired Waters		Named Waterway Crossings	
	Sites	Rank	Total Acres	Rank	Sites	Rank	Total Acres	Rank	Total Acres	Rank	Functional Loss	Rank	Acres	Rank	Total Acres	Rank	In Feet	Rank	Total Acres	Rank	Total Acres	Rank	Number	Rank
No Build	9	3	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1
8	9	3	119	5	17	3	0	1	339	2	203	2	6.2	4	358	4	1,000	2	18	5	651	4	11	4
14	9	3	36	2	16	2	0	1	504	4	303	5	6.2	4	438	6	1,000	2	84	6	671	5	14	6
15	9	3	36	2	17	3	0	1	508	5	299	4	6.2	4	423	5	5,500	6	198	2	794	6	13	5
17	1	1	119	5	26	6	0	1	439	3	268	3	0	1	202	2	1,000	2	18	4	600	2	5	2
19	1	1	36	2	25	5	0	1	575	6	349	6	0	1	273	3	1,000	2	84	2	602	3	6	3

Table 2-34 Environmental Involvement Category Ranking (cont’d)

	Physical								Cultural		Community					
Alternatives	Utilities		Railroads		Contamination Sites		Noise Sensitive Sites		Cultural Resources		Relocations		Land Use Inconsistency		Results	
	Number of Crossings	Rank	At Grade Crossing	Rank	Sites	Rank	Sites	Rank	Sites	Rank	Number	Rank	Miles	Rank	Category Score	Category Rank
No Build	0	1	Y	3	0	1	0	1	0	1	0	1	0	1	23	1
8	8	4	N	1	1	4	7	4	0	1	35	5	0.72	4	62	4
14	11	6	Y	3	0	1	7	4	0	1	36	4	1.23	6	71	6
15	7	3	Y	3	0	1	7	4	0	1	35	5	0.72	4	67	5
17	6	2	N	1	2	6	5	2	0	1	29	2	0	1	47	2
19	8	4	Y	3	1	4	5	2	0	1	30	3	0.51	3	55	3

Table 2-35 Estimated Costs Category Ranking

Alternatives	Right-of-Way		Wetland Mitigation		Total 4-Lane Construction Costs		Total Costs*	Category Score	Category Rank
	\$Millions	Rank	\$Millions	Rank	\$Millions	Rank	\$Millions	Score	Rank
No Build	\$0.00	1	\$0.00	1	\$0.00	1	\$0.00	3	1
8	\$42.70	2	\$33.91	2	\$424.69	2	\$501.30	6	2
14	\$46.60	4	\$50.36	4	\$470.68	5	\$567.64	13	4
15	\$48.35	6	\$50.82	5	\$517.12	6	\$616.29	17	6
17	\$44.70	3	\$43.87	3	\$430.32	3	\$518.89	9	3
19	\$47.90	5	\$57.51	6	\$454.43	4	\$559.84	15	5

* The Total Costs column is provided for information purposes and was not included as a criterion in the comparative evaluation for the Estimated Costs Category since the information was already accounted for in the other criteria.

Table 2-36: Public Preference Category Ranking

Alternatives	Overall Preferred Corridor		Category Score	Category Rank
	Votes	Rank	Score	Rank
No Build	14	6	6	6
8	69	2	2	2
14	67	3	3	3
15	22	4	4	4
17	287	1	1	1
19	17	5	5	5

Table 2-37: Overall Gulf Coast Parkway Alternatives Performance

Alternatives	Purpose and Need		Environment		Costs		Public Preference		Overall Score	Overall Rank
	Category Score	Category Rank	Category Score	Category Rank	Category Score	Category Rank	Category Score	Category Rank	Performance Score	Performance Rank
No Build	57	6	23	1	3	1	6	6	14	3
8	27	4	62	4	6	2	2	2	12	2
14	25	3	71	6	13	4	3	3	16	5
15	30	5	67	5	17	6	4	4	20	6
17	19	1	47	2	9	3	1	1	7	1
19	22	2	55	3	15	5	5	5	15	4

As would be expected, the No Build Alternative performed better than any of the build alternatives in the Environmental Evaluation Category by a considerable amount. The build alternative that performed best of the build alternatives was Alternative 17. Under species involvement, Alternative 17 and 19 had the least number of bear kills, but Alternative 17 had the most involvement with field surveyed protected species and, with Alternative 8, had the most involvement with the Panama City crayfish habitat. Alternative 17 was ranked third for involvement with wetlands, but was ranked, along with Alternative 19, first for involvement with EFH. Alternative 17 was second, after the No Build alternative, for involvement with floodplains, verified impaired waters, and named waterway crossings, but was fourth in involvement with Class 1 surface waters drainage basins.

Under the physical environment, Alternative 17 was second, after the No Build Alternative for involvement with utilities, and, along with Alternative 8, was first for involvement with railroads, it ranked sixth for involvement with contamination sites (which may be somewhat misleading since it would have involvement with only two sites), and it was second with Alternative 19, after the No Build Alternative in the number of noise sensitive sites it would potentially impact.

Alternative 17 was also ranked second, after the No Build alternative for the number of relocations it would cause. None of the alternatives would have involvement with conservation areas, cultural resources, or community facilities.

Estimated Costs Evaluation Category

This evaluation category compared the right-of-way, mitigation and construction costs of the alternatives (Table 2-35). As would be expected, the No Build alternative performed best, because there were no costs associated with this alternative. This does not consider the costs of programmed improvements that would occur under the No Build alternative but might be delayed were the Gulf Coast Parkway constructed. Nor does it estimate the cost benefits of the Gulf Coast Parkway that would be lost if the Gulf Coast Parkway were not constructed.

Of the Build alternatives, Alternative 8, at \$501.20 million, was the least expensive alternative followed by Alternative 17, at \$518.89 million. A difference of only 3.4 percent.

Public Preference Evaluation Category

The public preference evaluation category evaluated the public's expressed preferences, based on 533 responses to a questionnaire (discussed in Section 5) about the project (see Table 2-36). Based on these responses, Alternative 17 with 287 votes was overwhelmingly the preferred alternative although all alternatives, including the No Build, received votes expressing support. The second most favored alternative was Alternative 8 with 69 votes. There were 14 votes for the No Build alternative, 67 votes for Alternative 14, 22 votes for Alternative 15 and 17 votes for Alternative 19.

Alternatives Overall Performance

After completion of the evaluation of the alternatives in each of the four evaluation categories, there was no clear indication of which alternative should be recommended as the preferred. Alternative 17 performed best in the Purpose and Need and Public Preference categories, while the No Build performed best in the Environmental Involvement and Estimated Costs categories. Therefore, additional evaluation was required.

Table 2-37 compares the overall performance of the project alternatives, including the No Build alternative. Each alternative's performance (category rank) in each of the evaluation categories was

totaled to obtain an Overall Performance Score. The alternatives' performance scores were compared and ranked. So although the No Build alternative ranked first in two evaluation categories, it ranked last in the other two categories. When the rankings were totaled, the No Build alternative ranked in the middle overall while Alternative 17, which not only ranked first in two evaluation categories, was second in the Environmental Involvement Category and third in the Cost Evaluation Category, giving it a total score of 7, compared to the No Build alternative's score of 14, and an Overall Performance Rank of first. Alternative 8 ranked second with an Overall Performance Score of 12.

2.8 FDOT RECOMMENDED ALTERNATIVE

At this point in time, based on existing public input, early agency coordination, engineering information and environmental studies, which are currently available for public review, Alternative 17 is currently considered the FDOT recommended alternative. However, FDOT will not make a final recommendation to FHWA on any alternative until all alternative impacts and comments on the Draft EIS and public input resulting from the public hearing have been fully evaluated.

2.9 CONTROVERSIAL, UNRESOLVED, OR REMAINING ISSUES OR STEPS

The PD&E phase of project development by necessity is preliminary in nature. It is not always possible to resolve issues until more specific design information is available. Therefore, unresolved issues may carry over into later phases of the project's development. In some cases, resolution or consensus may not be achievable because it is human nature to have different opinions. Therefore, the following discussion is in two parts. The first identifies those issues that are not expected to be resolved in the PD&E phase while the second consists of additional work to be conducted in subsequent project phases.

2.9.1 Controversial or Unresolved Issues

There are two issues that are likely to remain unresolved or controversial, discussed below.

Project-induced Growth and Development

There remains some controversy over the amount of future growth and development in the study area. Because much of the study area is in large land-holdings so near to the coast, there is concern by the resource agencies that the proposed project would induce growth and development of these lands. The FDOT does not disagree that the new road could influence future development decisions by others. In fact, the Indirect and Cumulative Effects (ICE) analysis conducted for this PD&E study identified, with the assistance of a group of professional planners familiar with the study area, potential locations where future growth might be expected to occur. The reasons for using a Delphi Group was two-fold: one, it was expected that a groups of professional planners familiar with and practicing in the study area would provide the most informed projections of future development; and two, the use of the Delphi Group process would provide an unbiased approach to allocation of future growth in order to defray objections to the results. However, correspondence received in response to the ICE Report from the resource agencies indicates some disagreement with the location and size of potential development areas. This disagreement stems from the fact that large contiguous parcels are owned by single entities (in this case corporations) and previous experience of the agencies has been that in such situations (large land-holdings, especially in the vicinity of the coast), are subject to development. Owners of the large land holdings were contacted to provide representatives to the Delphi Group. Two large landholders participated and the resulting population allocations of the Delphi Group reflect the opinions of the representatives of the two large landholders.

The Council on Environmental Quality regulations defines indirect and cumulative impacts to include the effects of "reasonably foreseeable future actions" The courts have clarified that reasonably foreseeable

future actions as those that are likely to occur or probable rather than those that are merely possible. FHWA, based on additional guidance from the Council on Environmental Quality indicating that impacts can and should be made on informed judgments, but not speculation, has determined that those effects that are considered possible, but not probable, may be excluded from NEPA analysis..

Without specific plans showing development in the study area, and given the participation of the land owners in the Delphi Group, FDOT cannot provide a more objective and balanced approach to identifying the project's influence in inducing development within the timeframe of the analysis. If the resource agencies cannot accept the population projections and population allocations of the Delphi Group, the likelihood of achieving resolution on this issue is low.

Recommended/Preferred Alternative

There is likely to be controversy over the recommendation and selection of a preferred alternative. As indicated in the responses to public surveys and letters and resolutions supporting specific alternatives, there are differences of opinions regarding the alternative that is most beneficial. Bay County residents and officials tend to favor Alternatives 17 and/or 19; while Gulf County residents and officials tend to favor Alternative 15 or a hybrid of Alternative 8/15. The basis for each group's preferences has to do with the importance each group places on the various elements in the purpose and need. For instance, Gulf County faction's preferences of Alternative 15 or a hybrid of Alternative 8 and 15 have to do with their perception that the most northern connection to US 231 would provide the best route for tourists to the coastal areas and for freight traveling between the Port St. Joe Port and US 231/I-10. Whereas, Bay County faction's expressed preferences have been primarily for Alternative 17 which is seen as providing the shortest route to employment in the Panama City area, being consistent with development already occurring on the Allanton Peninsula, and connecting to other roads in the network that would carry traffic to the NWFBI. FDOT's approach to identifying a recommended alternative is presented in detail in Section 2 of this report. It utilizes a system that measures and compares the alternatives' according to criteria that determine how well each alternative meets the project's purpose and need, its involvement with environmental impacts, its cost, and public preferences. This approach was developed to prevent more emphasis being given to one criterion over another. This was important because one, there was no clear "best" alternative; and two, it was apparent whichever alternative was recommended there would be disagreement over its recommendation.

2.9.2 Remaining Issues or Steps

After approval of the Draft EIS for public availability, there will be a 45 day comment period and a public hearing. Following the public review period, the public hearing, and the comment period for this draft EIS, the final EIS phase will be initiated. The following are remaining issues or steps that will be accomplished in these later project phases. Because of the cost of the project, the design, right-of-way acquisition, and construction phases will occur in phases. The phases and construction costs for those segments of the project located in Bay County are identified in the Bay County TPO's LRTP (described in **Section 1** of this report). The phases and construction costs for segments within Gulf County will appear in FDOT's 5-year State Transportation Improvement Program (STIP) as they fall within that window.

FINAL EIS PHASE

Mitigation Plan for Wetland Impacts.

Although the FDOT has committed to providing mitigation for adverse effects to wetlands, specific details such as location of the mitigation site, type, size, and management requirements have yet to be determined. After identification of a recommended alternative, coordination will be conducted with the resource agencies to identify more specific details for the mitigation plan.

Mitigation Plan for Impacts to Essential Fish Habitat

Coordination is on-going with the National Marine Fisheries Service (NMFS) to identify an appropriate level of conceptual mitigation for impacts to EFH. Mitigation banks in the study area do not have estuarine credits. Although FDOT is committed to providing mitigation for adverse effects to marine resources, a mitigation site for these impacts will likely not be identified until the permitting phase for these impacts.

Additional Seasonal Wildlife and Plant Surveys

Additional seasonal wildlife and plant surveys within the preferred alternative's alignment will be conducted to identify the presence of any plant species that bloom during periods other than those already surveyed, to identify the need for wildlife "take" permits, and for identification of potential plants requiring relocation.

Identification of Wildlife Passage Locations

Specific location(s) of wildlife passages will be identified in order to design culvert and bridges in those locations to accommodate wildlife movements.

Boat Survey

A survey of waterway users at the location of the proposed high-level bridge crossing will be conducted for the US Coast Guard bridge permit application.

DESIGN PHASE

Detailed Uniform Mitigation Assessment Method (UMAM) Analysis

A detailed UMAM analysis of impacted wetlands is conducted during design to determine the specific mitigation requirements for the loss of wetland functions. This information is developed for the permit acquisition process.

Permit Acquisition

The acquisition of permits would occur during the design phase after completion of sufficient design details to accurately determine impacts and completion of any detailed studies needed to support permit applications.

Final Design

Final design of the road, bridges, drainage structures, stormwater collection and treatment facilities, wildlife passages, and mitigation measures would occur prior to right-of-way acquisition and construction of each project segment.

RIGHT-OF-WAY ACQUISITION PHASE

Right-of-way Acquisition and Easements

Property acquisition and easements would occur prior to construction.

CONSTRUCTION PHASE

Construction

Construction is anticipated to occur in phases as previously discussed.

2.10 REFERENCES

- 1 PBS&J, *Gulf Coast Parkway Corridor Feasibility Report*, 2004
- 2 PBS&J, *Gulf Coast Parkway Concept Master Plan*, 2005
- 3 Florida Department of Transportation, *ETDM Programming Screen Summary Report*, April, 2009
- 4 PBS&J, *Gulf Coast Parkway Cultural Resources Corridor Probability Assessment Report*, April, 2009
- 5 PBS&J, *Corridor Alternatives Evaluation Summary Report*, May 2009
- 6 Florida Department of Transportation, *Project Forecasting Handbook*, 2002
- 7 PBS&J, *Traffic Report – Gulf Coast Parkway*, 2010
- 8 Florida Department of Transportation, *2009 Quality / LOS Handbook*, 2009
- 9 West Florida Regional Planning Council, *2030 Long Range Transportation Program*, prepared for the Bay County Transportation Planning Organization, adopted December 6, 2006
- 10 West Florida Regional Planning Council, *2011-2015 Transportation Improvement Program*, prepared for the Bay County Transportation Planning Organization, 2010
- 11 Florida Department of Transportation, *2011-2015 Five-Year Work Program*
- 12 *Gulf County Comprehensive Plan*, adopted December 2009
- 13 American Association of State Highway Transportation Officials, *A Policy on Geometric Design of Highway and Streets*, 2004
- 14 Florida Department of Transportation, *Roadway Plans Preparation Manual, Volume I and II*, 2009
- 15 Florida Department of Transportation, *Roadway and Traffic Design Standards*, 2009
- 16 Florida Department of Transportation, *Drainage Manual*, 2009
- 17 Federal Highway Administration, *Manual on Uniform Traffic Control Devices*, 2003 as amended
- 18 Transportation Research Board, *Highway Capacity Manual*, 2010 as amended
- 19 Florida Department of Transportation, *Plans Preparation Manual*, 2009
- 20 Florida Department of Transportation, *Design Standards*, 2008
- 21 Florida Geographic Data Library
- 23 Florida Department of State, *Florida Master Site File*
- 24 Preble-Rish, *Contamination Screening Evaluation Report*, 2010

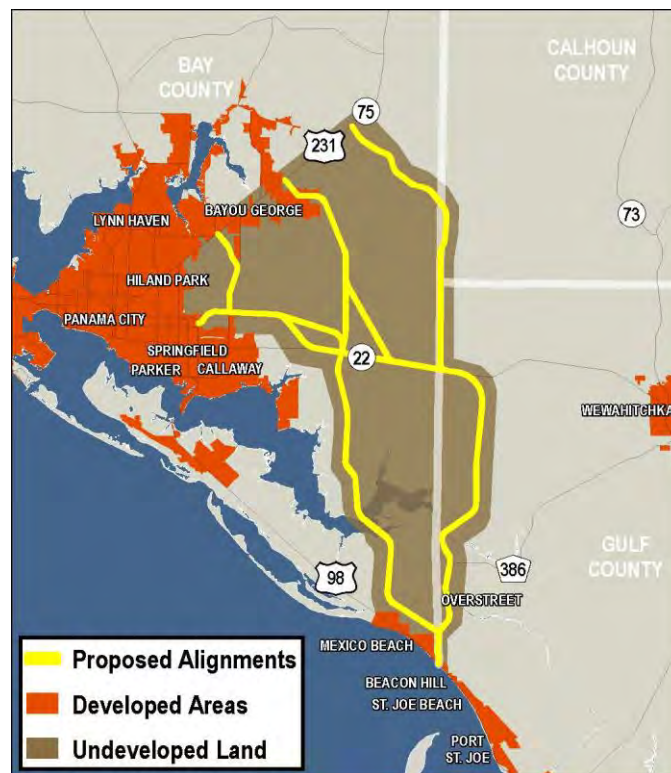
SECTION 3 AFFECTED ENVIRONMENT

This section characterizes the natural, physical, and socioeconomic environments in the project study area (shown in **Figure ES-1** unless otherwise stated). The information presented under each topic identifies the existing character of that resource within the project area, including Mexico Beach and the developed coastal communities along US 98 to the south of County Road (CR) 386; the Overstreet community along CR 386; the cities of Springfield, Callaway, and eastern Bay and western Gulf counties. These descriptions of existing conditions are the basis for the analysis of the project's potential effects on these resources, which are presented in **Section 4**.

The existing character of the Gulf Coast Parkway study area is almost entirely described as undeveloped or agricultural, with the dominant land use being planted pine silviculture (Shown in the illustration below). Approximately 62% of the total land use across all of the alternatives is comprised of planted pine silviculture. The only community involvement this project has occurs at the very northern and southern ends of the project, with Mexico Beach to the south, and the outside reaches of Panama City, Springfield, and other smaller communities to the north.

For those environmental features commented upon by the Environmental Technical Advisory Team (ETAT) after their review of the project in the Environmental Screening Tool (EST), the discussion (shown in blue font) begins with a summary of the comments and how or where the concerns have been addressed. This is followed by discussions provide detailed descriptions of the *existing characteristics* of the different affected environments in this study area, but do not discuss any actual impacts on those environments by this project. Those discussions are provided in **Section 4 Environmental Consequences**.

Figure 3-1: Project in Relation to Developed and Undeveloped Areas



3.1 POPULATION AND COMMUNITY CHARACTERISTICS

3.1.1 Demographic Data

Demographic characteristics were developed for this study based on the 2010 Census¹. The demographic data for Gulf, Bay and Calhoun counties indicate a wide range in income, education, and other social characteristics.

3.1.1.1 Population

Table 3-1 provides population data for Bay, Calhoun, and Gulf counties and those communities within them that are near the project study area. Between 2000 and 2010, Bay County experienced a 13.9% increase in population, nearly twice the statewide rate. Much of this growth occurred in the southern part of the county along the coastline and outside of the Gulf Coast Parkway study area. Of the communities near the study area, it is Callaway, and Lynn Haven that are experiencing rapid population increases rather than Panama City, the county seat.

Table 3-1 shows that during the same period (2000 – 2010) the percent change (12.4) in Calhoun County's population is comparable to that in Bay County; however as with Bay County this growth occurred outside the project study area. Gulf County also experienced an increase in population (18.98%), however not only was this growth outside of the project study area, but the incorporated communities of Wewahitchka and Port St. Joe closest to the project area both suffered population loss from 2000 to 2010.

3.1.1.2 Minority Populations

The percentage of non-white population varies considerably throughout the study area (**Table 3-2**). Both Gulf County (21.9%) and Bay County (17.8%) have a smaller percentage of non-whites than the state's non-white population (25.0%); however, there is considerable variation in the non-white population among the communities within these two counties. Excluding Mexico Beach due to its resort character, the percentage of non-white population ranges from a low of 8.7% in Highland View to a high of 34.0% in Springfield and 28.9% in Callaway.

Possibly because the project alternatives are on mostly undeveloped lands there has been no demand for the provision of Limited English Proficiency (LEP) language services to date. However, should the need arise for these services, they are available.

Table 3-1: Population Data in the Study Area

	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall Air Force Base (AFB)
Est. 2035 population	24,970,700	220,100	18,300	17,200	-	-	-	-	-	-	-	-	-
% Change – Current to 2035	31%	30%	16%	17%	-	-	-	-	-	-	-	-	-
Est. Current Population	19,057,542	169,278	15,789	14,685	3,462	1,967	36,590	14,383	18,585	1,082	4,329	8,908	-
% Change – 2012 to present	1.36%	0.25%	-0.47%	0.41%	0.49%	-0.71%	0.29%	-0.15%	0.50%	0.93%	0.28%	0.06%	-
2010 Total Population	18,801,310	168,852	15,863	14,625	3,445	1,981	36,484	14,405	18,493	1,072	4,317	8,903	2,994
% Change – 2000 to 2010	17.64%	13.92%	18.98%	12.4%	-5.46%	15.04%	0.18%	1.21%	48.53%	5.41%	-6.62%	1.06%	8.60%
2000 Total Population	15,982,378	148,217	13,332	13,017	3,644	1,722	36,417	14,233	12,451	1,017	4,623	8,715	2,757
% Change – 1990 to 2000	23.5%	16.7%	15.9%	18.2%	-9.9%	-3.2%	5.9%	16.2%	33.9%	-	0.54%	1.1%	-36.2%
1990 Total Population	12,937,926	126,994	11,504	11,011	4,044	1,779	34,378	12,253	9,298	-	4,598	8,715	4,318
% Male	48.90%	49.50%	59.80%	54.4%	48.10%	48.60%	49.10%	49.70%	47.40%	48.51%	48.67%	49.40%	54.80%
% Female	51.10%	50.50%	40.20%	45.6%	51.90%	51.40%	50.90%	50.30%	52.60%	51.49%	51.33%	50.60%	45.20%
Under 5	5.70%	6.30%	4.10%	6.2%	5.10%	6.00%	6.20%	7.10%	6.70%	1.77%	5.70%	7.30%	14.80%
Under 18	21.30%	22.00%	16.20%	21.4%	20.30%	23.90%	20.70%	23.60%	25.20%	11.19%	21.2%	24.60%	36.20%
65 and Over	17.3%	14.5%	16.3%	15.4%	22.8%	17.3%	16.3%	12.9%	12.5%	31.2%	17.4%	13.0%	0.43%
Median Age	40.7	39.5	42.7	39.7	46.8	41.6	38.5	36.9	37.7	55.1	40.9	34.9	22.2

Source: United States Census Bureau, 2010 Census

Table 3-2: Racial Characteristics in the Study Area

		Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall AFB
Total Population	Pop.	18,801,310	168,852	15,863	14,625	3,445	1,981	36,484	14,405	18,493	1,072	4,317	8,903	2,994
White	Pop.	14,109,162	138,731	12,384	11,818	2,462	1,736	26,138	10,239	15,379	998	3,389	5,872	2,206
	%	75.0	82.2	78.1	80.8	71.5	87.6	71.6	71.1	83.2	93.1	78.5	66.0	73.7
African American	Pop.	2,999,862	18,180	2,962	2,011	888	165	8,026	2,619	1,856	20	539	2,116	417
	%	16.0	10.8	18.7	13.8	25.8	8.3	22.0	18.2	10.0	1.9	12.5	23.8	13.9
Native American	Pop.	71,458	1,153	63	165	13	11	190	95	104	4	39	64	14
	%	0.4	0.7	0.4	1.1	0.38	0.6	0.5	0.7	0.6	0.4	0.9	0.7	0.5
Hispanic	Pop.	4,223,806	8,107	678	755	90	39	1,844	849	759	28	241	518	393
	%	22.5	4.8	4.3	5.2	2.61	2.0	5.1	5.9	4.1	2.6	5.6	5.8	13.1
Asian	Pop.	454,821	3,353	69	75	12	1	596	592	442	8	110	335	72
	%	2.4	2.0	0.4	0.5	0.35	0.1	1.6	4.1	2.4	0.7	2.5	3.8	2.4
Hawaiian or other Pacific Islander	Pop.	12,286	161	4	12	1	0	33	13	23	0	1	8	12
	%	0.1	0.1	0.01	0.1	0.03	0	0.1	0.1	0.1	0	0.01	0.1	0.4
Some other race	Pop.	681,144	2,039	119	198	21	13	454	199	149	9	52	173	75
	%	3.6	1.2	0.8	1.4	0.6	0.7	1.2	1.4	0.8	0.8	1.2	1.9	2.5
Two or More Races	Pop.	477,572	5,235	285	346	61	55	1,047	648	540	33	187	335	198
	%	2.5	3.1	1.8	2.4	1.8	2.8	2.9	4.5	2.9	3.1	4.3	3.8	6.6

Source: United States Census Bureau, 2010 Census

Despite having a lower percentage of non-white population than the State of Florida, Gulf County (18.7%) has a larger percentage of the African American race than the state (16%). Those communities within the study area having a much higher percentage of African American populations than the state include: Port St. Joe (25.8%), Panama City (22.0%), and Springfield (23.8%).

The study area has a smaller Hispanic population (5.1%) than the State (22.5%), with the highest concentration occurring in Tyndall AFB (13.1%). The Asian population in Gulf County (0.4%) is one-sixth the state percentage (2.4%), which is fairly consistent with the Asian population percentage in Bay County (2.3%), the City of Parker (2.5%) and Tyndall AFB (2.4%). Callaway (4.1%) and Springfield (3.8%) have an Asian population one and half times the state's percentage. The Hawaiian or other Pacific Islander populations are consistent with the state population (0.2%) except in Mexico Beach (0.7%) which is higher.

3.1.1.3 Education

Of those persons 25 years and older for whom education levels have been determined (**Table 3-3**), the highest percentage of persons who have not achieved a high school diploma reside in the towns of Wewahitchka and Springfield in Gulf and Bay counties respectively. The percentage of the population with a high school diploma in Panama City, Callaway, Lynn Haven, Mexico Beach, Parker, and Tyndall all exceeded the state percentage. But Port St. Joe (9.9%) exceeded the state percentage (8.6%) for having achieved an associate's degree; and Lynn Haven exceeded the state percentage by 5.3% in achieving a Bachelor's degree.

Wewahitchka (79.2%) and Springfield (76.4%) had the lowest percentage reporting in the high school or higher category, with Callaway, Lynn Haven, Mexico Beach, Parker, Port St. Joe, and Bay County having percentages higher than the state percentage. Lynn Haven was the only community in the study area whose population reported having achieved an education level of Bachelor's degree or higher that exceeded the state percentage of 25.9%, although Mexico Beach was close at 24.6%. The communities with the lowest percentages in this category were Springfield (9.3%) and Wewahitchka (6.8%)

3.1.1.4 Housing Characteristics

The housing characteristics of the study area are compared with state characteristics in **Table 3-4**. Given that Mexico Beach is a tourist community; it isn't surprising that it has a very low percentage (30.4%) of occupied housing. Because it is an anomaly, Mexico Beach is excluded from further comparison.

Lynn Haven and Callaway have the highest percentage occupied units, followed by Panama City, Springfield, and Parker, all of which have percentages greater than the state. Wewahitchka, Bay County, and Gulf County were significantly lower than the state in percentage of occupied housing. Although Gulf County, Port St. Joe, and Wewahitchka were higher in the owner-occupied housing category, Bay County, Panama City, Callaway, Tyndall AFB, Parker, and Springfield were lower than the state in owner-occupied housing.

Panama City had the highest percentage of renter-occupied units, while Gulf County had the lowest percentage. Only Bay County, Wewahitchka, Port St. Joe, and Gulf County had a lower percentage of renter-occupied units than the state average. In no case, did the percentage of renter-occupied units exceed the percentage of owner-occupied units, although Panama City was closest to being evenly split.

The average family size, excluding Mexico Beach, ranged from 2.82 to 3.49 persons per family. Callaway, Tyndall AFB, Springfield, and Wewahitchka had a higher average family size than the state average of 3.01.

Table 3-3: Educational Attainment Population 25 years and Over

Educational Attainment	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield Tyndall AFB	
Population 25 and Older	13,059,562	115,699	12,079	10,019	2,519	1,358	25,208	9,513	12,354	893	3,010	5,709	1,158
Less than 9 th Grade	5.70%	4.00%	5.00%	9.40%	4.30%	5.30%	4.60%	4.30%	3.00%	0.60%	2.20%	10.30%	0.00%
9 th to 12 th Grades	8.80%	9.70%	17.30%	16.5%	5.60%	15.50%	10.00%	10.60%	6.60%	5.70%	10.20%	13.30%	2.20%
High School Diploma	85.0%	86.3%	77.7%	41.2%	84.3%	79.2%	85.4%	85.0%	90.3%	93.7%	87.7%	76.4%	97.8%
Some College	43.10%	25.20%	18.10%	16.0%	23.90%	21.10%	24.50%	25.40%	25.50%	24.40%	25.70%	23.50%	40.20%
Associate Degree	8.60%	9.20%	6.70%	5.30%	9.90%	6.00%	9.10%	9.40%	10.60%	7.50%	10.50%	8.30%	20.60%
Bachelor's Degree	25.9%	20.4%	13.6%	7.80%	15.4%	6.8%	19.2%	15.4%	31.2%	24.6%	13.8%	9.3%	20.9%
Graduate Degree	9.20%	7.50%	5.80%	3.80%	7.50%	2.70%	7.40%	6.60%	11.80%	8.90%	8.10%	1.40%	9.30%
% H.S. Graduate or Higher	85.00%	86.30%	77.70%	74.1%	84.30%	79.20%	85.40%	85.00%	90.30%	93.70%	87.70%	76.40%	97.80%
% Bachelor's Degree or Higher	25.90%	20.40%	13.60%	11.6%	15.40%	6.80%	19.20%	15.40%	31.20%	24.60%	13.80%	9.30%	20.90%

Source: *United States Census Bureau, 2010 Census***Table 3-4: Housing Characteristics in the Study Area Compared to the State Average**

Characteristics	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall AFB
Total Units	8,989,580	99,650	9,110	5,999	1,868	1,077	17,438	6,590	8,266	1,852	2,310	4,238	934
Vacant Units	1,568,778	31,212	3,775	938	463	255	2,646	893	733	1,289	449	760	173
% Vacant	17.45%	31.32%	41.44%	15.64%	24.80%	23.70%	15.17%	13.55%	8.87%	69.60%	19.44%	17.93%	18.52%
Vacant Recreational	657,070	13,878	2,322	231	168	119	313	47	67	864	52	29	24
% Vacant Recreational	7.31%	13.93%	25.49%	3.85%	8.99%	11.04%	1.79%	0.71%	0.81%	46.65%	2.25%	0.68%	2.57%
Occupied Units	7,420,802	68,438	5,335	5,061	1,405	822	14,792	5,697	7,533	563	1,861	3,478	761
% Occupied	82.55%	68.68%	58.56%	84.36%	75.20%	76.30%	84.83%	86.45%	91.13%	30.40%	80.56%	82.07%	81.48%
Owner Occupied	4,998,979	43,207	2,988	3,887	1,018	588	7,883	3,591	4,953	380	1,120	1,932	23
% Owner Occupied	55.61%	43.36%	32.80%	64.79%	54.50%	54.60%	45.21%	54.49%	59.92%	20.52%	48.48%	45.59%	2.46%
Renter Occupied	2,421,823	25,231	1,347	1,174	387	234	6,909	2,106	2,580	183	741	1,546	738
% Renter Occupied	26.94%	25.32%	14.79%	19.57%	20.70%	21.70%	39.62%	31.96%	31.21%	9.88%	32.08%	36.48%	79.01%
Average Household Size	2.53	2.36	2.50	2.60	2.34	2.41	2.28	2.48	2.46	1.90	2.32	2.52	3.40
Average Family	3.01	2.92	2.83	3.03	2.89	2.96	2.91	2.96	2.95	2.43	2.82	3.07	3.49
Median Home Value	\$205,600.	\$175,500	\$131,900	\$89,000	\$122,700	\$93,000	\$156,200	\$155,000	\$209,300	\$289,600	\$167,700	\$121,300	-
Med. Household income	\$41,661	\$47,770	\$39,178	\$47,661	\$39,942	\$31,214	\$39,916	\$49,193	\$59,992	\$55,250	\$53,214	\$43,795	\$44,676
% Household at or below Poverty	9.9%	9.1%	15.5%	15.5%	8.7%	24.8%	13.8%	5.7%	6.7%	10.2%	8.9%	11.6%	6.1%
% Persons below Poverty	13.8%	12.4%	21.1%	21.1%	9.5%	30.2%	17.2%	7.1%	9.2%	13.4%	11.3%	15.1%	5.8%
% Persons with Disability	20.5%	19.7%	21.1%	22.6%	23.5%	26.5%	22.5%	18.0%	15.0%	22.0%	17.1%	24.2%	2.8%
Limited English Proficiency	11.8%	2.6%	3.3%	3.0%	1.5%	1.6%	3.6%	3.5%	1.4%	4.7%	2.4%	3.9%	3.3%
% Households with No Vehicle	6.5%	5.0%	9.0%	7.1%	12.0%	11.3%	8.3%	4.3%	4.4%	0.5%	4.1%	4.6%	2.5%

Source: *United States Census Bureau, 2010 Census*

3.1.2 Neighborhoods and Communities

Communities are comprised of people who share common ties and interests and usually, but not always, reside within common boundaries. Two common boundaries used to define a community are governmental boundaries (city, county, state, etc.) and geographic (neighborhood). The towns and cities in the area surrounding the project, except for the community of Overstreet, are located principally at or near the project termini. Although much of the study area in between is “undeveloped” rural area, there are neighborhoods of varying sizes at various locations in the vicinity of the project (**Figure 3-2**).

City of Port St. Joe

The City of Port St. Joe is the location of Gulf County’s seat of government. It is located southeast of the study area on US 98. Port St. Joe occupies 3.3 square miles and had a population of 3,445 in 2010, a loss of 199 persons since 2000. This represents a decrease of 5.46% over the 2000 population, which had previously declined 10.5% between 1990 and 2000. The city also had the highest percent of African Americans (25.78%) in the study area, and a relatively high percentage of citizens 65 years and older (22.8%). Industries providing employment in the city (as shown in Table 3-9) include: educational, health, and social services (25.8%); public administration (11.1%); manufacturing (15.5%); and retail trade (4.0%).

Beacon Hill

Beacon Hill is a small unincorporated beachfront community on the Gulf County side of CR 386 at US 98. It is comprised of the Beacon Hill Subdivision, a development that extends inland approximately four blocks.

Highland View

Highland View is a small unincorporated area north of the city of Port St. Joe. It is located within Gulf County approximately eight miles from the Bay County/Gulf County line. It is located on US 98 and is bordered by the Intracoastal Waterway (ICWW) canal on the south and marshland on the north and east side. Subdivisions in Highland View include Bay Breeze, Sunset Bay, and Bay View Heights.

St. Joe Beach

St. Joe Beach is another small, unincorporated beachfront residential community located on US 98 southeast of Beacon Hill. It extends inland about four blocks and includes the following neighborhoods and/or subdivisions: Hidden Ridge, Highlands at St. Joe Beach, Palmetto Trace, Magnolia Bluff, Sea Haven, Palm Ridge, Yon’s Addition to Beacon Hill, Sea Shores St. Joe Beach (Unit 3), and Port St. Joe Beach (units 1 and 2).

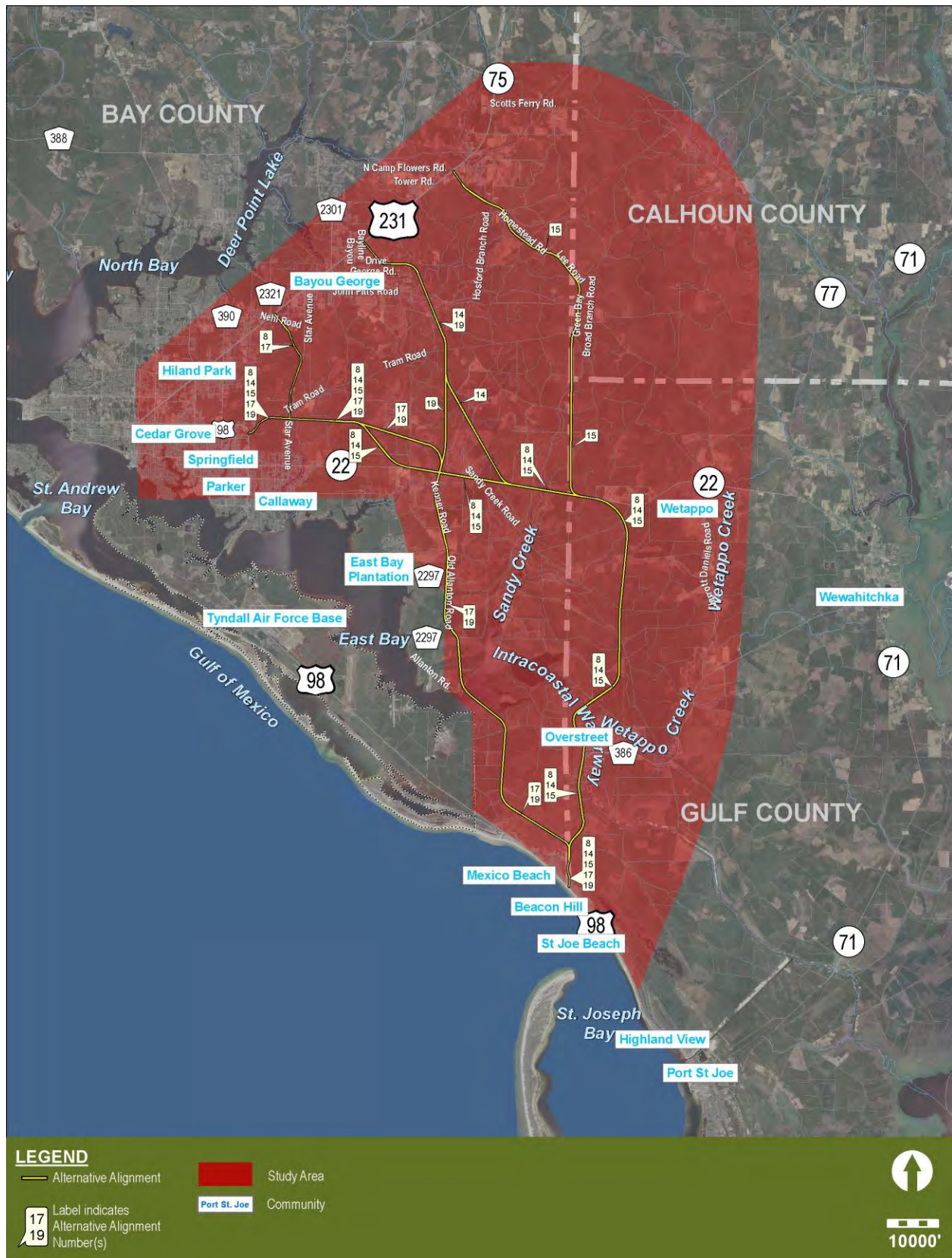
Overstreet

Overstreet is a small inland community along CR 386 in the vicinity of the ICWW. Neighborhoods within Overstreet include Carl’s Place, Pine Breeze, and South Long Estates Phase II/Easy Waters.

East Bay Plantation

This subdivision is a bay front community with oversized waterfront and water view lots located on East Bay and Wetappo Creek where Wetappo Creek enters East Bay.

Figure 3-2: Neighborhoods and Communities in the Vicinity of the Study Area



Wetappo

Developments along Wetappo Creek include Wetappo Creek Estates and Creek Wood Estates near Pleasant Rest Road. Further along CR 386 are Creek View Estates and Tremont Estates

City of Wewahitchka

Wewahitchka is an inland community located on State Road (SR) 71 in eastern Gulf County. It is a small, rural community that has remained relatively untouched by the rapid growth occurring in Florida. Although it only had a population of 1,981 in 2010, an increase of 13.1% over its 2000 population, the city once served as the county seat. It is now known for its tupelo honey production and the freshwater fishing in the adjacent Dead Lakes.

Tyndall Air Force Base

Tyndall AFB is a United State AFB located 12 miles east of Panama City on US 98. It is comprised of 14.5 square miles of land and 0.077 square miles of water. In 2010, Tyndall had a population of 2,994, an 8.6% increase over its 2000 population. Tyndall had the lowest median age (22.2 years), the lowest percentage of individuals at or below poverty level (6.1%), the highest percentage of persons reporting ethnicity or 2 or more races (6.61%), the highest percentage of Hispanics (13.13%), the highest percentage of high school graduates and Bachelor's degree holders (97.8 and 20.9%, respectively), the highest percentage of renter-occupied units (79.01%), and the highest average family size (3.49 persons) in the study area.

Housing for base personnel is located west of the base's main entrance (Illinois Avenue). Although the main entrance is the closest to the study area, it is approximately 17.5 miles from the study area. Therefore, base personnel living in base housing primarily utilize the US 98 (Tyndall Parkway) corridor through Parker, Callaway, Springfield and Panama City for shopping and employment opportunities. Although a few personnel may choose to live off-base in the Mexico Beach area, the study area is primarily visited by base personnel for recreation purposes.

City of Mexico Beach

Mexico Beach is a relatively quiet, but thriving, coastal community on Florida's Forgotten Coast. The City's southern edge abuts CR 386, on the Bay County side, at US 98. Only that part of the city adjacent to CR 386 is within the study area. In 2010, Mexico Beach had a population of 1,072, a 5.41% increase over its 2000 population. The average age of the population is significantly higher than the state average, which is consistent with a retirement area. Mexico Beach had the lowest percentage of persons under 5 years old (1.77%), the highest percentage of persons 65 years or older (31.16%), the highest median age (55.1%), the highest percentage of whites (93.1%), the lowest percentage of African Americans (1.87%), a high percentage of the population with a high school diploma (93.7%), the highest percentage of vacant units (69.6%), the smallest household size (1.9 persons), and the lowest percentage of households with no vehicle (0.5%) in the study area. Industries providing employment (as shown in Table 3-9) include: construction (13.4%); arts, entertainment, recreation, accommodation, and food services (12.8%); educational, health, and social services (16.8%); professional, scientific, management, administrative, and waste management services (12.6%); and retail trade (9.8%).

Neighborhoods within Mexico Beach within the vicinity of the study area include: Mexico Beach (Units 9, 12, and 14), Paradise Cove, La Siesta, and Angela Estates.

City of Callaway

The City of Callaway is one of several small communities that comprise the greater Panama City metropolitan area. Callaway is located east of the cities of Springfield and Parker. It had a population in 2010 of 14,405 in an area 5.7 square miles in size. Callaway is typical of many bedroom communities where a large percentage (35.6%) of the population commutes elsewhere to work. Those residents who work within Callaway (as shown in Table 3-9) work primarily in educational, health, and social services (17.7%); retail trade (16.0%); or Public administration (13.2%). Those residents from Callaway commuting to Panama City have two choices, depending on their destination: SR 22 (Wewa Highway) or US 98 (Tyndall Parkway).

City of Springfield

The City of Springfield is located between Panama City and Callaway and is 4.0 square miles in area. It has a population of 8,903. This is a 1.1% increase over the population in 2000. Nearly 30% of the population commutes to work outside of the community, a small percentage of the population (6.3%), lives and works within the community. The primary employment opportunities (as shown in Table 3-9) are in: educational, health, and social services (24.1%); retail trade (13.5%); and arts, entertainment, recreation, accommodation, and food services (7.9%). Those residents in Springfield commuting to Panama City would currently use US 98 (Tyndall Parkway), SR 22 (Wewa Highway), or possibly 11th Street, depending on their destination.

Cedar Grove

Cedar Grove occupies 9.4 acres north of Springfield and northeast of Panama City along the US 231 corridor. Cedar Grove had a population in 2000 of 5,367. Industries providing employment (as shown in Table 3-9) are: educational, health and social services (19.7%), retail trade (15.8%), and construction (10.2%). Workers who live and work in the community comprise 13% of the population. Only 6.8% commute to work outside the town. Those traveling to Panama City to work would most likely use US 231 to commute.

Bayou George

Bayou George is an unincorporated area of Bay County located along US 231, approximately six miles north/northeast of Panama City.

City of Parker

The City of Parker occupies 1.9 square miles and had a population of 4,317 in 2010. This is a 6.62% decrease over the population in 2000. Industries providing employment in Parker (as shown in Table 3-9) include: educational, health, and social services (20.2%); retail trade (13.2%); arts, entertainment, recreation, accommodation, and food services (13.1%); and manufacturing (9.0%). No information was available on the percentage of the work force that commutes out of the community. Depending on the traveler's destination in Panama City, they would most likely utilize Business 98 (Boat Race Road) or US 98 (Tyndall Parkway).

Hiland Park

The community of Hiland Park is located north of Cedar Grove and Panama City. It is the smallest of the communities around Panama City, occupying 1.1 square miles. The population of Hiland Park was 999 in 2000. Industries providing employment include: educational, health, and social services (21.6%); and

arts, entertainment, recreation, accommodation, and food services (10.9%). No information was available on the percentage of the work force that commutes out of the community. However, those traveling to Panama City would utilize SR 77 or CR 389 to US 231.

3.1.3 Community Services

Community facilities provide a focal point for adjacent neighborhoods and communities, as well as serving the needs of the surrounding areas. For the purpose of this study, community facilities include churches and other religious institutions, cemeteries, public and private schools, and public buildings and facilities, such as, fire stations, police stations, hospitals, and post offices. Recreational areas are described in **Section 3.3.3. Figures 3-3 and 3-4** illustrate the different community services in the area.

Churches and Religious Institutions

There are 37 churches near the project area. All of the churches are listed in **Table 3-5** and shown on **Figure 3-3**.

Cemeteries

There are two cemeteries within a ½ mile of a proposed project corridor. The Pleasant Rest Cemetery is located at the end of Pleasant Rest Road adjacent to Wetappo Creek. Garden of Memories is located at 4035 East 15th Street, Panama City, near the intersection of CR 386 with US 98.

Schools

Gulf County has two public elementary schools, two public middle schools, and two public high schools, none of which are in the vicinity of the project. Bay County has 22 public elementary schools, 7 public middle schools, 5 public high schools, 4 special purpose schools and 10 private schools. In addition, Gulf Coast Community College; Florida State University, Panama City Branch; Troy State University and Embry Riddle Aeronautical University, Panama City Branches at AFB; Haney Technical Center; Shaw Adult Education Center and New Horizons Learning Center are in Bay County.

Along US 98 there are two schools in the project area: Tyndall Elementary School located at 7800 Tyndall Parkway and Cedar Grove Elementary School located at 2826 East 15th Street.

Along US 231, there are two public schools within or adjacent to the project study area: the Tommy Smith Elementary School, located at 5044 Tommy Smith Drive, and the Merritt Brown Middle School, located at 5044 Merritt Brown Road. Both schools are located to the east of Cherokee Heights Road and west of Star Avenue. A third school, Callaway Elementary School, is located at 7115 East Highway 22, just west of Star Avenue.

Figure 3-3: Churches in the Gulf Coast Parkway Study Area



Table 3-5: Churches in the Gulf Coast Parkway Study Area

Map ID Number	Church Name	Address	City
1	Bayou George House of Prayer	7635 Bayou George Drive	Panama City, Florida
2	Bayou George Church	7814 Highway 2301	Panama City, Florida
3	Bible Believers Baptist Church	4630 East Highway 98	Panama City, Florida
4	Bradenville Community Church	4337 Brannon Road	Panama City, Florida
5	Brannonville Baptist Church	4113 Barber Street	Panama City, Florida
6	Callaway Assembly of God	5718 Cherry Street	Panama City, Florida
7	Callaway First Baptist Church	6930 E. Highway 22	Panama City, Florida
8	Callaway United Methodist Church	6619 E. Highway 22	Panama City, Florida
9	Christian Fellowship Independent Baptist Church	500 North 15 th Street	Mexico Beach, Florida
10	Church of Jesus Christ of Latter-Day Saints	6525 Lake Drive	Panama City, Florida
11	Church of Christ	6321 Cherry Street	Panama City, Florida
12	Church of Christ at the Beaches	314 Firehouse Road	Mexico Beach, Florida
13	East Bay Baptist Church	508 Highway 2297	Panama City, Florida
14	East Side Assembly of God	3610 14 th Street East	Panama City, Florida
15	East Side Christian Church	5906 E Highway 22	Panama City, Florida
16	First Baptist Church	823 North 15 th Street	Mexico Beach, Florida
17	First Baptist Church	6227 Highway 2301	Panama City, Florida
18	First Baptist Church	5940 Highway 2311	Panama City, Florida
19	First Baptist Church of Parker	4646 East Highway 98	Panama City, Florida
20	First Pentecostal Church	179 N. Tyndall Parkway	Panama City, Florida
21	First United Methodist Church	111 N. 22 nd Street #A	Mexico Beach, Florida
22	Galilean Baptist Church	6008 John Pitts Road	Panama City, Florida
23	Gospel Light Baptist Church	4718 E. 3 rd Street	Panama City, Florida
24	Harvest Worship Center	3238 E Highway 390	Panama City, Florida
25	Jehovah's Witnesses	5209 E. 11 th Street	Panama City, Florida
26	Life and Praise Assembly of God	615 North Tyndall Parkway	Panama City, Florida
27	Light House Baptist Church	3323 15 th Street East	Panama City, Florida
28	Long Avenue Baptist Church	1601 Long Avenue	Port St. Joe, Florida
29	New Life Christian Center	504 6 th Street	Panama City, Florida
30	New Life Worship Center	4141 East 15 th Street	Panama City, Florida
31	Our Lady of Guadalupe Catholic Church	243 Nanook Road	Mexico Beach, Florida
32	Our Lady of the Rosary	5636 Julie Drive	Panama City, Florida
33	Overstreet Bible Church	350 Firehouse Road	Mexico Beach, Florida
34	St. Dominic's Roman Catholic Church	3308 East 15 th Street	Panama City, Florida
35	St. Patrick Episcopal Church	4025 15 th Street	Panama City, Florida
36	Straight Away Christian	5031 Star Avenue North	Panama City, Florida
37	Temple Baptist Church	2813 E. Highway 390	Panama City, Florida

Fire and Police Protection

Fire protection services in the study area (**Table 3-6**) are provided by a combination of volunteer fire stations and local government fire departments. Some of the fire stations in Gulf County offer Medical First Responder services, but none operate a full time Emergency Medical Services (EMS) response unit. None of the fire stations in Bay County provide medical first responder services or maintain EMS units.

Law enforcement services are provided by the Sheriff's Departments in Gulf County and Bay County. Police services within the study area are provided by the City of Springfield Police Department (3529 East 3rd St.), the Cedar Grove Police Department (2728 East 14th Street), the Panama City Police Department (1209 East 15th Street), and the City of Mexico Beach Police Department (118 North 14th Street). The City of Callaway has contracted with the Bay County Sheriff's Department to provide police services. The Panama City Sub-district office of the Panama City District of the Florida Highway Patrol is also located within the study area (at 6030 CR 2321).

Table 3-6: Fire Departments in the Gulf Coast Parkway Study Area

County	Fire Department (FD)	Address	City
Gulf	Wetappo Creek Volunteer Fire Department (VFD)	507 Kemp Cemetery Road	Wewahitchka, FL 32456
	Stone Mill Creek VFD	211 Ike Steele Road	Wewahitchka, FL 32456
	Gulf County Beaches VFD	7912 Alabama Avenue	Port St. Joe, FL 32456
	Highland View VFD	132 Snapper Street	Port St. Joe, FL 32456
	Overstreet VFD	580 Palmetto Drive	Port St. Joe, FL 32456
Bay	Mexico Beach VFD	118 North 14 th Street	Mexico Beach, FL 32401
	Bayou George VFD	9041 Highway 2301	Panama City, FL
	Callaway (FD)	323 South Berthe Avenue	Panama City, FL 32404
	Hiland Park VFD	2801 Lafayette Road	Panama City, FL
	Parker FD	1003 West Park Avenue	Panama City, FL 32404
	Springfield FD	3726 East 3 rd Street	Panama City, FL 32401
	Tyndall AFB FD	325 th CSG/ DEF. Stop 42	Panama City, FL

Medical and Emergency Operation Facilities

Bay County has four primary medical facilities. Bay Medical Center, with a bed capacity of 413, is a regional referral center serving a seven-county area in the central Panhandle of Florida. Bay Medical Center, located at 1940 Harrison Avenue in Panama City, has over 200 physicians on staff representing virtually every medical specialty, and a support staff of more than 2,000 dedicated employees.

Bay Medical Center's EMS Department provides countywide service, operating out of 9 stations. In addition to emergency response, the Medical Center ambulance service provides critical care and non-emergency transport. There are 65 trained EMS professionals staffing the main unit at the Medical Center, branch locations in Panama City Beach and Lynn Haven, and a quick response unit in the north part of the County.

Other medical facilities in Bay County include: Gulf Coast Medical Center, a 176-bed full service medical/surgical, acute care hospital located at 449 West 23rd St., Panama City; Healthsouth Emerald Coast, 1847 Florida Avenue in Panama City, a comprehensive medical rehabilitation hospital that provides inpatient and outpatient therapy; Bay County Behavioral Health Center, located at 1940 Harrison Avenue; and the Tyndall AFB Hospital with 20 beds for 34,000 active military, retirees, and dependents.

In Gulf County, medical services are provided at: Cypress Medical Clinic, 108C North Highway 71, in Wewahitchka; Gulf Pines Medical Center, 102 20th Street, Port St. Joe; Bay St. Joseph Care & Rehab, 220 9th St., Port St. Joe; and Shoreline Medical Group, 419 Baltzell Ave., Port St. Joe.

The Gulf Co. Health Department is located at 2475 Garrison Avenue in Port St. Joe. Licensed Advanced Life Support Ambulance service, located at 140 Library Drive, in Port St. Joe, provides 24-hour emergency coverage for Port St. Joe and the surrounding area. Gulf EMS supplements this coverage with 3 advanced life support units located at Fire Departments throughout the service area, manned by on-call personnel.

None of the medical service providers are within or adjacent to the study area.

Other Public Buildings and Facilities

The United States Postal Service has post offices in the vicinity of the project at the following locations: 625c 15th Street, about a block west of CR 386, in Mexico Beach; at 6827 East Highway 22 in Callaway; and at 225 North Tyndall Parkway, about a block south of the intersection of SR 22 and US 98, in Callaway.

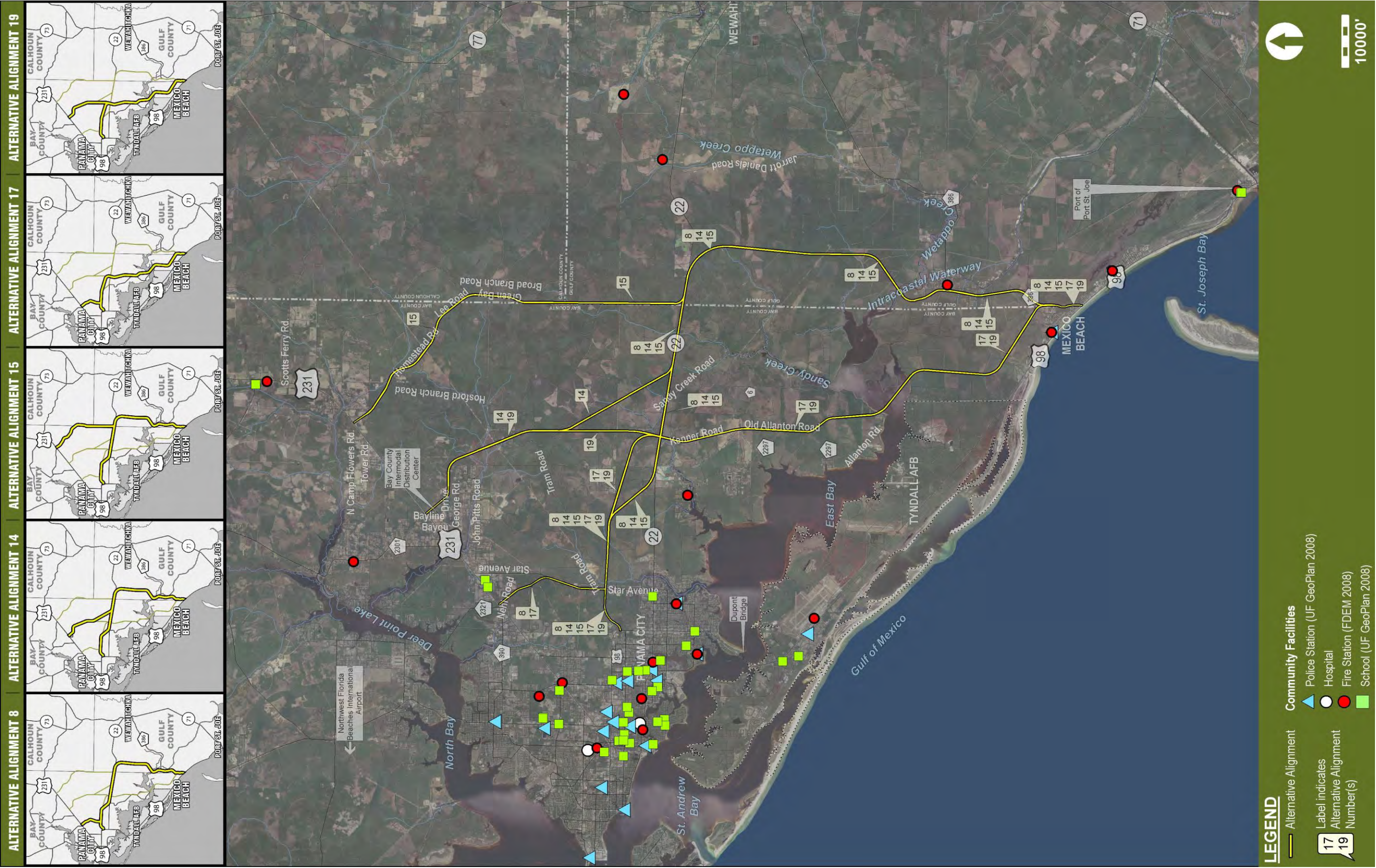
Government buildings adjacent to or in the vicinity of the project alternatives include the Callaway City Hall located at 6601 East Highway 22, the Cedar Grove City Hall located at 2728 East 14th Street in Cedar Grove, and the Mexico Beach City Hall located at 118 14th Street in Mexico Beach.

The Bay County Public Library in Panama City, located at 25 West Government Street, is the headquarters of the northwest regional library system which includes, in addition to Bay County, Gulf, Calhoun, Liberty and Jackson Counties. No libraries are located within the study area, although the Springfield Library is located about 1.5 miles from the intersection of SR 22 with Tyndall Parkway (US 98).

Community Centers

There are two community centers in the study area. The Glenwood Community Center is located at 722 East 9th Court in Panama City and the Mexico Beach Civic Center, located at 703 Maryland Boulevard in Mexico Beach.

Figure 3-4: Community Facilities in the Gulf Coast Parkway Study Area



3.1.4 Visual Environment

The visual setting of the Gulf Coast Parkway study area is almost entirely pine forests, but contains elements of residential and commercial establishments. The key view sheds consist of the potential bridge crossings over the ICWW and Wetappo Creek.

3.1.4.1 Existing Viewer Groups

There are three major viewer groups to these key view sheds. The first group consists of drivers and passengers. This is the largest group and also the least sensitive. Those who will drive the proposed roadway regularly will have a greater exposure, but their awareness is likely to be diminished due to the anticipated travel speed. The second group consists of the residents along the proposed alignments. This group is likely to be more sensitive than the drivers and passengers, and have a greater exposure and awareness to the project. Boaters and other recreational users of Wetappo Creek and the ICWW make up the third group. This is a much smaller viewer group with minimal exposure to the project, but their awareness and sensitivity to the new construction will be higher due to the recreational nature of their activities.

3.1.4.2 Existing Visual Character

The Gulf Coast Parkway study area provides a varied visual environment, from the beaches south of the intersection of US 98 and CR 386 to the commercial and industrial environment along US 231. In between the project termini, the project passes through low density rural areas and forested pine plantations. At the northern termini the project touches on the outside edges of the higher density neighborhoods, commercial, and industrial areas of Panama City.

The key view sheds on this project are located where the proposed alignments cross the Wetappo Creek and the ICWW. Depending upon which alignment is chosen, a high level bridge may be constructed to cross the two waterbodies together or the existing Overstreet Bridge will be utilized to cross the ICWW and a new bridge will be constructed to cross Wetappo Creek.

The first key view shed is that of the potential bridge across both waterbodies. The view shed will consist of the creek in the foreground, large beds of sawgrass in the middle ground, and pine forest in the background. The view shed will be similar to the photograph (**Figure 3-5**) below, taken from the Overstreet Bridge, without the boat docks.

Figure 3-5: View of Waterway from Overstreet Bridge



The view shed of the waterway from the water will be similar to the photograph (**Figure 3-6**) shown below with the water in the foreground, the bridge and sawgrass in the middle ground and the pine forest in the background. The actual bridge design may differ from that shown in the photo, but will be at the same elevation.

Figure 3-6: Bystander's View of Water Crossing



The second potential key view shed will occur if the alignment chosen crosses Wetappo Creek and the ICWW separately. This view shed consists of the water in the foreground and the pine forest in the background. Due to the density of the forest, this is a smaller view shed which will look very similar to the photo shown below (**Figure 3-7**). Depending on the location of the bridge, there may also be large sawgrass beds in the middle ground and the forest in the background (**Figure 3-8**).

Figure 3-7: View of Wetappo Creek



Figure 3-8: View of Sawgrass Beds



Figure 3-9 shows the area that will be affected if alternative 17 or 19 are used. This view shed shows a view of where the proposed roadway will cross East Bay. **Figure 3-10** shows a view of the proposed intersection of all of the proposed alternatives with Star Ave. in Bay County.

Figure 3-9: View of Proposed East Bay Crossing



Figure 3-10: View of Proposed Intersection of Alternatives with Star Ave.



Figure 3-11 shows the area near the proposed intersection of Alternative 8 with SR 22. The area consists mostly of pine trees, and low lying brush. **Figure 3-12** shows the stretch of Mexico Beach where the project will begin.

Figure 3-11: View of Proposed Intersection of Alternatives 8, 14, and 15 with SR 22



Figure 3-12: View of Mexico Beach near CR 386



3.2 ECONOMIC CONDITIONS

Economic conditions are vastly different between Gulf County and Bay County. Gulf County is a relatively small, rural County with a population density of roughly 24 persons per square mile. Much of its land has been in pine plantation since the early 1900s. The county seat, Port St. Joe, has lost population since the passing of a constitutional amendment banning certain fishing nets and the 1998 closing of the paper mill. Small, rural counties do not have the diversity in economic resources to withstand such significant impacts without suffering economic consequences.

Gulf County's 2007 Evaluation and Appraisal Report (EAR) noted that before the paper mill closed, the population was fairly stable with a manageable growth rate.¹ Based on Census Bureau data, it would appear Gulf County's population between 2000 and 2010 increased 15.9 percent. However, the EAR analysis of the 2000 Census data indicated that the 2000 population reflected the inclusion of inmate populations in the census count which was further skewed by the expansion of inmate facilities in Gulf County. When the inmate population was removed from the population data, Gulf County's population between 2001 and 2005 increased by 9 persons. The EAR concluded this population increase reflected the over-all ownership trend to be second homes or investment property and confirmed the weak employment opportunities within the County².

In contrast, Bay County's population increased by 16.7% between 1990 and 2000 and 12.2 percent between 2000 and 2010. Some of the difference in the rate of population growth in Bay County during this period may be the result of the economic recession of 2008. Other evidence of the county's growth is reflected in the number and types of new developments that have been approved. The recent issuance of permits for expansion of the Port Authority's Industrial Park by approximately 1,500 acres is illustrative of the economic growth occurring in the Panama City area.

3.2.1 Employment Data

As shown in **Table 3-7**, the number of employees in Bay and Gulf Counties between 2007 and 2011 continued to increase in spite of the economic recession. Bay County experienced an increase in employment of 4.3% while Gulf County had employment growth of 4.4%.

Table 3-7: Bay County and Gulf County Number of Employees from 2007 to 2011

Year	Bay County	Gulf County
2007	84,258	6,151
2011	87,922	6,427

Source: United States Census Bureau, 2007-2011 American Community Survey

Tables 3-8 and **3-9** presents 2010 census data showing the distribution of the workforce by occupation and industry in Gulf and Bay Counties and in the communities surrounding the study area. From these tables, it is evident that the majority of the work force is employed in management, office, or service type occupations, followed by construction, and production and transport occupations. The larger communities have a higher percentage of employees in management in contrast to smaller communities which have a higher percentage of employees in sales and office occupations.

¹ Gulf County, *Evaluation and Appraisal Report*, 2007, p. 2-1

² Gulf County, *Evaluation and Appraisal Report*, 2007, p. 2-1

Table 3-8: Workforce (in Percentage) Distribution by Occupation, and Unemployment Rate

Occupation	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall AFB
Employed Civilian Population 16 and Older	8,317,203	76,430	5,595	4,537	1,579	1,094	16,067	6,480	8,856	500	2,093	3,735	671
Management, Professional, etc.	32.8	31.2	28.0	29.3	20.6	24.8	31.7	21.3	45.0	32.8	26.5	18.7	46.6
Service	19.0	19.4	23.9	24.4	35.0	30.1	20.8	20.1	16.1	22.0	21.4	27.5	14.8
Sales and Office	28.3	27.7	23.2	23.0	28.3	16.0	24.5	36.5	24.6	23.6	34.2	28.1	24.9
Construction, extraction, and maintenance	10.7	12.7	16.3	13.1	11.7	21.8	13.4	12.8	8.0	19.8	9.1	15.1	6.1
Production, transportation, and material moving	9.2	9.0	8.7	10.2	4.4	7.3	9.5	9.4	6.2	1.8	8.8	10.5	7.6
Unemployed	8.9%	7.5%	8.1%	8.0%	6.5%	11.1%	8.3%	9.5%	3.0%	6.0%	6.1%	7.0%	1.6%

Source: *United States Census Bureau, 2010 Census***Table 3-9: Distribution of Employment Base (in Percentage) by Industry**

Industries	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall AFB
Agriculture, Forestry, Fishing, Hunting, and Mining	1.1	0.6	2.3	5.5	0.0	1.6	0.6	0.5	0.6	4.0	1.0	0.2	0.0
Construction	8.6	10.1	14.6	8.0	8.1	20.2	10.6	7.7	5.3	14.4	6.0	11.1	3.7
Manufacturing	5.8	5.6	9.5	5.7	15.5	4.1	5.5	5.1	4.5	2.4	9.0	4.0	5.2
Wholesale Trade	3.2	1.7	1.0	2.0	1.6	0.6	1.7	0.7	1.6	3.4	0.6	2.2	0.0
Retail Trade	13.1	14.0	7.8	16.4	4.0	8.6	12.9	16.0	10.7	9.8	13.2	13.5	16.8
Transportation, warehousing, and utilities	5.2	4.1	5.3	2.9	4.9	4.6	3.6	5.5	3.5	3.2	1.6	1.9	2.4
Information	2.3	2.5	2.5	1.3	3.7	0.0	2.6	2.3	4.3	0.6	0.0	4.7	0.0
Finance, insurance, real estate, and rental and leasing	8.2	6.2	3.1	2.9	6.1	4.6	7.0	5.7	7.0	6.2	5.1	2.9	1.2
Professional, scientific, management, administrative, and waste management	11.8	9.4	8.5	7.5	8.9	11.1	8.5	7.8	9.9	12.6	14.0	9.3	0.7
Educational, health and social services	19.9	19.4	21.6	19.5	25.8	17.7	22.0	17.7	27.5	16.8	20.2	24.1	37.6
Arts, entertainment, recreation, accommodation, and food services	10.9	12.0	9.4	8.7	6.8	8.2	11.0	11.0	8.7	12.8	13.1	7.9	8.3
Other services (except public administration)	5.3	6.0	3.9	4.1	3.5	8.6	6.2	6.9	6.4	5.0	5.8	8.8	3.1
Public Administration	4.8	8.3	10.5	15.6	11.1	10.1	7.8	13.2	9.8	8.8	10.4	9.3	20.9

Source: *United States Census Bureau, 2010 Census*

From an industry perspective, the industry with the greatest number of employees (by percentage) is education, health, and social services regardless of the size of the community. In Gulf County, the industry ranking second in employees is public administration, while in Bay County and its communities, retail trade is second. The only exception is Lynn Haven, which, on a percentage basis, has a nearly equal number of employees in retail and public administration.

The workforce in Gulf County and its communities was least likely to be employed in the wholesale trade, while in Bay County and its communities the workforce was least likely to be employed in agriculture, forestry, fishing, hunting, and mining.

Table 3-8 also shows the unemployment rates for the study area. Both Wewahitchka and Callaway have an unemployment rate (11.1 and 9.4%, respectively) above the state average (8.9%). Tyndall AFB (1.6%) and Lynn Haven (3.0%) have an unemployment rate much lower than the state. Tyndall AFB, however, would be expected to have low unemployment since it is a military base.

Table 3-10 provides the Bureau of Labor Statistics data on unemployment rates for Bay and Gulf Counties in comparison to the state of Florida from 1990 to 2010. While the 2010 information differs from that provided by the US Census Bureau in **Table 3-8**, it does provide a glimpse of the economic trends over this thirty year period. Further, this information substantiates Gulf County's position, provided earlier (**Section 1**), that until the paper mill closed, Gulf County had a stable population with an unemployment rate similar to other areas of the state (and even better than that of Bay County). But by 2000, the effects of the mill closure is realized in an unemployment rate substantially higher than that of the state or Bay County, both of which had seen significant declines in unemployment over the previous ten years. The data further illustrates the effects of the 2008 recession, which increased unemployment rates even more substantially than the previous decline had reduce them in 2000. In 2010, Gulf County was, from an unemployment position in about the same position as Bay County, and both counties were better off than the state as a whole.

Table 3-10: Unemployment Rates for Bay and Gulf Counties and the State of Florida

	1990	2000	2010
State of Florida	5.6%	3.8%	11.3%
Bay County	9.3%	4.6%	10.0%
Gulf County	6.8%	6.0%	10.3%

Source: Bureau of Labor Statistics

3.2.2 Income and Poverty Data

Table 3-11 identifies income and poverty characteristics. As shown, the City of Lynn Haven had the highest median household income (\$59,992), higher even than the state, and the lowest percentage of persons below the poverty level. However, Mexico Beach has the highest per capita income (\$22,737). The lowest median household income is found in Wewahitchka (\$31,214), and the lowest per capital income (\$12,689) is found in, the city with the highest percentage of persons below the poverty level (30.2%).

3.2.3 Economic Generators, Activities, and Markets

In Bay County, the primary employers are the Bay District Schools, Tyndall AFB, Coastal Systems Station, Bay Medical Center, Wal-Mart, and Sallie Mae, which employ more than 1,000 people each. Of these employers, Tyndall AFB is the most significant to the study area⁴.

Tyndall AFB is the single largest employer with 5,191 employees, down from 6,666 in 2000, and is located near the project study area. The third largest employer in the County is the Navy's Coastal Systems Station with 3,816 employees, up by 1,367 persons since 2000. The two military facilities together employ nearly 20% of the Bay County's workforce⁴.

The Bay County School District, which includes 21 elementary schools, eight middle schools, six senior high schools, two special purpose schools, and one vocational-technical facility, employs 4,500 people (down 500 employees since 2000). The Gulf Coast Community College employs an additional 390 people⁴.

The Bay Medical Center is a regional medical facility with 2,174 employees, up 279 employees since 2000, 250 of which are physicians. Fourteen additional organizations employ between 300 and 1,000 people. These include government, banking, manufacturing, and resort industries⁴.

In Gulf County, the primary employers are GT Com, Bay St. Joseph Care and Rehabilitation Center, and Taunton Industries, which employ over 100 people⁵ each.

Both Bay and Gulf counties are committed to attracting additional industrial development to their counties. Industrial park sites are readily available and conveniently located. **Table 3-12** lists existing industrial parks in the vicinity of the study area, and new industrial sites that are planned or permitted are listed in **Table 3-13**. In addition, Gulf County has established enterprise zones along US 98, CR 386, SR 71, and SR 22 (**Figure 3-13**). An Enterprise Zone, established by the State, is a specific geographic area offering tax advantages and incentives to businesses locating within the zone boundaries in order to stimulate economic development in a distressed area.

Table 3-11: Income and Poverty Data for Gulf, Calhoun and Bay Counties

	Florida	Bay County	Gulf County	Calhoun County	Port St. Joe	Wewahitchka	Panama City	Callaway	Lynn Haven	Mexico Beach	Parker	Springfield	Tyndall AFB
Median Household Income (in dollars)	47,661	47,770	39,178	31,699	39,942	31,214	39,916	49,193	59,992	44,856	53,214	43,795	44,676
Median Family Income (in dollars)	57,204	56,877	46,979	39,332	48,333	39,861	47,363	52,879	74,028	55,250	58,583	46,350	44,676
Per Capita Income (in dollars)	26,551	25,033	17,968	15,091	21,812	14,726	22,211	22,182	27,823	37,756	26,135	18,197	16,921
Number of persons below poverty level	2,502,365	19,966	2,593	2,577	323	786	5,934	1,028	1,615	156	492	1,349	152
% Persons below poverty level	13.8	12.4	19.5	21.1	9.5	30.2	17.2	7.1	9.2	13.4	11.3	15.1	5.8
Families below poverty level	462,337	4,048	579	516	82	151	1,227	232	321	33	20	287	44
% Families below poverty level	9.9	9.1	15.5	15.5	8.7	24.8	13.8	5.7	6.7	10.2	2.5	11.6	6.1
Female head of household below Poverty level	234,354	2,213	357	364	13	113	804	117	143	24	81	107	23
% Female head of household below poverty level	25.9	27.6	49.4	43.1	13.7	76.9	33.5	15.6	24.2	52.2	34.8	26.0	54.8

Source: *United States Census Bureau, 2010 Census*

Table 3-12: Existing Industrial Parks in Gulf and Bay Counties

Industrial Park	Location	Size	County
Hugh Nelson Industrial Park	Off SR 390 Panama City, Florida	193 acres	Bay
Port of Panama City/Foreign Trade Zone #65	US 98 Panama City, Florida	125 acres	Bay
Bay County Industrial Park Phase I	US 231 8 miles north of Panama City, Florida	300 acres	Bay
Lynn Haven Industrial Park	One block from the SR 390/SR 389 intersection Lynn Haven, Florida	105 acres	Bay
Port St. Joe Commerce Park	US 98 & Industrial Drive Port St. Joe, Florida	Phase II is 45 acres	Gulf
Gulf County Industrial Park	SR 71 Wewahitchka, Florida	12,000 sq. ft. building	Gulf
Costin's Light Industrial Park	Off US 98, 2 miles south of Port St. Joe, Florida	21 acres (288 acres can be acquired for future expansion)	Gulf
Intracoastal Waterway Industrial Park	CR 386 Port St. Joe, Florida	1090 acres	Gulf

Source: Bay County Economic Development Alliance⁶
Gulf County Economic Development Council⁷

Figure 3-13: Gulf County Enterprise Zones



Table 3-13: Planned or Permitted Industrial Parks in Gulf and Bay Counties

Industrial Park	Location	Size	County
Bay County International Airport and Industrial Park	CR 388 West Bay, Florida	10,000 acres	Bay
Panama City Port Authority Bay County Distribution Center	US 231 8 miles north of Panama City, Florida	1,511 acres	Bay
Port of Port St. Joe	Port St. Joe, Florida	To Be Determined	Gulf
New Industrial Park	US 71 6 miles south of Wewahitchka, Florida	40 acres	Gulf

Source: Bay County Economic Development Alliance⁶
Gulf County Economic Development Council⁷

Perhaps the largest economic generator for both Bay and Gulf Counties is the coastline of the Gulf of Mexico. The attraction of the beaches is fueling growth in the area. The 27 miles of coastline in Bay County attracts 7,000,000 visitors annually⁸. Until recently, the beaches of Gulf County have not been as well known, as evidenced by its moniker, the Forgotten Coast. However, they have much to offer and with improved accessibility that will change.

3.2.4 Property Values

Starting in 2000 property values across the state increased each year, until peaking out in 2006. After 2006, prices began to fall and have continued to do so. In 2000, the average property value in the State of Florida was \$148,804. In Bay County and Gulf County, the average values were \$100,000 and \$125,000, respectively. From 2000 to 2006, the real estate market was booming and Florida reached a state average property value of \$349,909. This represents a 135% increase in price over six years. In Bay County the market reached an average value of \$211,500. This was a 112% increase in value over six years. In Gulf County the real estate market hit a high in 2005 with an average value of \$265,000. After 2006, in Bay County and most of Florida, real estate markets began to plummet. In 2011, Florida's average property value was \$200,206, a 43% decrease in value from 2006. In Bay County, the 2011 value was \$155,000, a 27% decrease in value from 2006. Gulf County's land value fluctuated up and down from 2002 to 2011.

3.2.5 Tax Base and Revenues

One way to measure economic productivity is by the taxes collected in an area. Taxes are a substantial part of the local economy and they directly impact revenues and spending for local governments. For communications services, both Bay and Gulf County impose a local tax of 5.52% and 5.72%, respectively, and a state tax of 6.65%. Bay and Gulf County also have a state sales tax of 6%, county surtaxes (0.5% and 1.0%, respectively), and tourist development taxes (5% and 4%, respectively). The general trend in local sales tax collections for Bay and Gulf County is illustrated in **Table 3-14a**. In 2004, Gulf County reached the peak of local spending with \$605,066.99 in sales tax collected. Since then, the sales tax receipts fell to a low of \$268,363.36 but then increased to \$308,055.48 in 2010. Gulf County also has a local surtax which raised \$207,262.10 and a tourist development tax which has raised \$3,882,703.32 since 2001. In Bay County local spending hit a high point in 2003 with tax receipts of \$23,209,775. Beginning in 2004 spending fell 38%, and has remained about the same.

Table 3-14a: Local Sales Tax Collections in Gulf and Bay Counties

Year	Bay County Gross Sales Tax Receipts	Gulf County Gross Sales Tax Receipts
2003	\$23,209,775	\$420,997.20
2004	\$14,317,231	\$605,066.99
2005	\$15,152,535	\$589,262.54
2006	\$15,903,367	\$489,792.49
2007	\$16,436,738	\$436,454.72
2008	\$15,638,235	\$312,578.93
2009	-	\$268,363.36
2010	-	\$308,055.48

Source: *Florida Department of Revenue*³

Property taxes are a major contributor of funding. **Table 3-14b** lists the amount of property taxes collected for Bay and Gulf County. From 2003 to 2006 Bay County, experienced an increase in property taxes of 67%, while Gulf County's collections experienced a growth of 48%. From 2006 to 2010 there was a downward trend in Bay and Gulf County. Bay County's collections decreased from 2006 by 8%, while Gulf County's collections dropped by 18%.

Table 3-14b: Local Property Tax Collections in Gulf and Bay Counties

Year	Bay County Property Tax Receipts	Gulf County Property Tax Receipts
2003	\$127,593,037.81	\$19,573,069.86
2004	\$139,238,508.96	\$23,771,417.57
2005	\$188,864,124.90	\$28,009,494.98
2006	\$213,074,260.86	\$28,955,387.56
2007	\$209,322,712.36	\$29,245,709.02
2008	\$212,855,588.85	\$28,288,974.96
2009	\$210,574,131.49	\$28,188,535.93
2010	\$195,292,684.08	\$23,762,805.29

Source: *Florida Department of Revenue*³

3.2.6 Special Economic Activities and Resources

Capability to accommodate shipping is a major asset of the region. The ICWW which extends from Brownsville, Texas to Carrabelle, Florida traverses the study area. The ICWW has a good deal of commercial activity; barges haul petroleum, petroleum products, food stuffs, building materials, and manufactured goods. It is also used extensively by recreational boaters when the ocean is too rough for travel. Access to the ICWW is available from the deepwater ports in Panama City and Port St. Joe. A master plan for the Port has been adopted and steps are actively being taken to implement that plan.

The Port of Port St. Joe was once a bustling seaport in the early 1900's but has since been closed. However, the St. Joe Company and Port Authority have plans to re-open the 132 acre port. The port is one of 14 natural deep water ports in the state, and this makes it a very desirable project. The plan calls for deep water berths along the west side of the port on St. Joe Bay, and a barge staging area to the north side

of the port in the Gulf County Canal. The location of the port makes it very accessible to ships, and also provides an entrance to the ICWW. This port could be a great asset to the economy of the area. It could provide many jobs, and bring in more industry to surrounding communities.

The Port of Panama City has grown since it was established in 1967 to include six deep water berths consisting of 3,240 linear feet, with 36 foot draft at low water, 600 linear feet of barge facilities, and 470,000 square feet of warehousing space. The port is efficiently equipped with modern loading and unloading facilities for truck, rail, barge, container, roll-on roll-off vessel and deep water vessel traffic. Plans are being developed to provide a multi-bulk terminal on the east side of the port and a cruise terminal on the west side, near the entrance⁹.

In addition, the port is a Foreign Trade Zone (#65), one of two in northwest Florida. The Foreign Trade Zone program was established to provide tariff and tax relief to lower the costs of U.S.-based operations engaged in international trade and thereby create and retain the employment and capital investment opportunities that result from those operations.

The Panama City Port Authority (Authority) also operates an Industrial Complex of 125 acres on the port site, a 260-acre industrial site on US 231 about 8 miles north of Panama City, and the Hugh Nelson Industrial Park (175 acres). In addition, the Authority, the City of Panama City and the Bay Line Railroad (BAYL) are working together to develop a new 200-acre Bay County Distribution Center adjacent to the Industrial Complex on US 231¹⁰. This is consistent with Goal 2, as outlined in *A Five Year Plan to Achieve the Mission of Florida's Seaports, Interim Report*¹¹ by the Florida Seaport Transportation and Economic Development Council, which is "to build the intermodal facilities needed by Florida's seaports to move their goods and passengers more efficiently than competing out-of-state and offshore seaports".

The United States Navy Coastal Systems Station (Station) supports the Dahlgren Division of the Naval Surface Warfare Center by providing research, development, test and evaluation, and in-service engineering for mine warfare, special warfare, amphibious warfare, diving and other naval missions that take place primarily in coastal regions. It employs approximately 2,000 civilian and military personnel and has an annual payroll of approximately \$117 million. The Station also contracts services, buys local goods, and maintains an active construction program. Its economic impact on Bay County is estimated to be \$336 million annually¹².

Tyndall AFB, which today encompasses more than 29,000 acres in Bay County, has been in operation since it opened in December of 1941. Currently, Tyndall AFB employs 4,400 military, 635 Department of Defense (DOD) and contract civilians, and 471 Non-Appropriated Fund (NAF) Personnel and other employees. More than 2,160 secondary jobs are created by Tyndall AFB expenditures. And, according to United Publishers, publishers of Military Base guides, the economic impact of Tyndall AFB on the area is \$470 million annually¹².

Oceaneering International, Inc., located at the Port of Panama City, is an advanced applied technology company that provides engineering services and hardware to customers who operate in marine, space and other harsh environments. The company is currently adding 150 jobs and investing \$25 million in an existing building¹².

The region's single largest civilian project, a new \$275 million international airport owned and operated by the Panama City – Bay County Airport and Industrial District has been constructed on a 4,000 acre site in Bay County, approximately five miles northwest of the central business district of Panama City. The Northwest Florida Beaches International Airport (NWFBI) opened in May 2010.

There are two railroads operating in the study area. The Apalachicola Northern Railway serves the local industries and the Port of Port St. Joe. The Apalachicola National Railway has a history of transporting a variety of products including wood chips and other forest products, chemicals, and coal. In light of the latter, most of its 96-mile mainline consists of heavy duty, 140 lb. rail on concrete ties. The Apalachicola National Railway connects with the Class I CSX Transportation Railroad at Chattahoochee, Florida.

The BAYL, LLC operates between Panama City and Abbeville, Alabama, with trackage rights on CSX's Dothan Subdivision between Dothan and Grimes, Alabama. The line interchanges with CSX's PA Subdivision at Cottdale, Florida, and their Dothan Subdivision at the trackage rights section near Dothan, Alabama. It also interchanges with Norfolk Southern Railway in Dothan, Alabama.

3.3 CULTURAL AND HISTORICAL RESOURCES

A search of the Florida Master Site File (FMSF) was conducted to determine the locations of known historical and archaeological sites and the presence of any significant resources within the study area. Archaeological data is limited within this very large study area as there have not been any professional, systematic surveys conducted in these locations.

3.3.1 Historical

The following paragraphs address communities in the project area that arose in the 1800s to recent times.

Just to the southeast of Callaway on the north side of East Bay was the community of Baxter. The community was founded on the homestead of Lewis C. Davis, who ran a general store there and also erected a sawmill in 1885. Salt works operated by members of the Parker family were located at Baxter during the Civil War. A U.S. Homestead certificate was issued to Robert V. Deadrick on June 2, 1896 for a land parcel in what would eventually become the Allanton community. This parcel, in addition to a second parcel Deadrick purchased from W.B Lassitter on October 27, 1897 was purchased by Andrew Allan on April 4, 1901. (Century Pioneer Family Farm certificate application, 2007) Part of this sale included a saw mill and steam engine which had been constructed by Deadrick in 1888. The mill was renamed the Allan Lumber Company. John Beadnell opened a brick yard in Allanton in 1906.

The namesake of Allanton, Andrew Allan migrated with his family from Michigan to south Georgia, where they then built barges and “floated down the Chattahoochee and Apalachicola Rivers to East Point” with several other families. They then established the community of Allanton on east St. Andrews Bay. Andrew Allan had three sons who played a prominent role in East Bay history. The Allan homestead has been continuously owned within the Allan family for more than a century. During this time, the farmstead grew from 398 acres to 535 acres. (Century Pioneer Family Farm certificate application, 2007)

A post office was established at Allanton on December 30, 1902. A school was also established in the community in the early 1900's with 21 students enrolled at its peak year. The post office later closed on November 15, 1933 and was moved to Farmdale. (Bradbury and Hallock 1962:2) The school closed in 1942 and the remaining students were sent to nearby Callaway to attend classes. (Smith 2000:83) Of the 122 churches recorded in Bay County in 1939, the Bayview Missionary Baptist Church was the only one recorded in the community of Allanton.

Along the northwestern edge of the study area near US 231 are several older communities that have been in existence since the 1800s. Brannonville, located on US 231 near Star Avenue, received its name from the Brannon family who were early residents and dairy farmers. Jack Gay had a seafood restaurant and nightclub in the area in the 1930s.

The community of Bayou George is located at the head of Bayou George Creek on US 231. It once was a transportation route for goods being transported to the bay, and US 231 was the only road that connected St. Andrews Bay with Washington and Jackson Counties. In 1827, Bayou George Creek, then called East Creek, was crossable by a ferry operated by Henry Grant. The first bridge was built there in 1893, and a dock was built into the creek to handle traffic to Bay Head. In the early 1900's, there was a turpentine still in operation and a commissary for workers. In the 1920s, Roger Berg of New York planned a real estate development for Bayou George. He formed the St. Andrews Development Company and purchased land from T.B. Young which he had platted for home sites. However, the lots were slow in selling and he was forced into bankruptcy. A commune for a group of Norwegian immigrants was planned in 1926, but it too failed. The area now continues to grow slowly.

Another community along US 231 and the BAYL, at the northern limit of the study area, is Youngstown. Youngstown was first called Lawrence, after an early settler in the area. In the early 1900s, T. B. Young constructed a turpentine still and a commissary adjacent to the railroad called the Youngstown Naval Stores Company. A small village began to grow in the area. The Youngstown Naval Stores Company was sold to the McBride family in the 1920s and it closed in the 1930s. The land was purchased by C. B. Waller in 1940 and used as a grass sod farm. Several developments were begun in the Youngstown area during this time. However, none of them prospered.

Located on SR 386 in Gulf County between Wewahitchka and Mexico Beach, Overstreet is positioned on the ICWW. At the request of George Overstreet, the community's post office was established on August 28, 1913. This post office was operated in "Miss Lillie Scott's corner" and later across the canal at Patrick's Store. Ms. Scott and Mr. Thomas Patrick served as postmaster, respectively. The Overstreet post office was discontinued on August 15, 1928 when it was moved to Blountstown.

In Overstreet's early years, a ferry operated to allow passage across the canal. A barge was later constructed and called the Overstreet Floating Bridge. Completed in 1952 of scrap and salvage materials, it was intended to provide a temporary crossing at the ICWW. This swing barge remained in operation until the late 1980s when a permanent bridge was constructed.

The Overstreet School was built in the first decade of the 20th century and was the first of three schools in the area. The structure later became a community church in the 1950s with the Methodist Church providing pastors. The building was used as a church until the late 1970s.

Records indicate that the fire tower at Overstreet was moved from Farmdale around 1941 or 1942. In 1947, it was one of 122 fire towers in existence around the state. In Gulf County, other fire towers were located at Wettapo, White City and Odena. Forester Archie Marshall's wife, Verna Merrell attended the Overstreet fire tower for decades.

According to local informants, a number of the residential structures were floated down the ICWW to Overstreet from other locations. Many citizens were involved in the local turpentine industry, including numerous African-American residents. Pioneer families include the Patricks, Guillfords, and Hardys.

Based on the historical documentary review summarized above, it is concluded that the study area may contain historical sites. Typical historical sites that could be expected include artifact scatters related to the naval stores and the timber industry, and historic homesteads. During both the Second Seminole War and the Civil War, several events occurred within the region, but no known specific events have taken place within the study area.

3.3.2 Archaeological

Of the 25 recorded archaeological and historical sites, 16 sites date to the Weeden Island period, three of which are burial mounds. These sites are generally located on the bayous, creeks, and drainages feeding the bays, bayous, or the Gulf of Mexico. The artifacts, including ceremonial vessel types, exotic materials such as mica and copper, and effigy and anthropomorphic figurines, have been recovered from the mound sites. The other sites range from Late Archaic period artifact scatters to historic sites. The historic sites, excluding the National Register listed Schmidt-Godard Farm, may be remnants of historic house sites associated with the naval stores industry that was prominent in the region during the late 19th-early 20th century.

Based upon an examination of the information in the FMSF and other pertinent sources, there is a moderate to high probability that additional archaeological sites are present, particularly in the East Bay region of the study area. Areas where the soils were at least somewhat poorly to moderately well-drained along sand ridges and those areas along or near substantial fresh waterbodies are considered to be high/moderate probability. Areas that are frequently inundated or consist of wetland vegetation species, as well as areas that are not located within close vicinity to fresh water are considered to have a low potential for the presence of cultural material and therefore, have been determined to be low probability.

Table 3-15 lists the previously recorded archaeological sites within one mile of the study area. Refer to the *Cultural Resources Assessment Survey* (CRAS) for a more detailed discussion of the archaeological and historical resources evaluated during the cultural resources assessment for this project. **Figure 4-19** in **Section 4** presents of location map these historic properties. This figure also includes those sites located and evaluated during the CRAS.

Table 3-16 lists previously recorded cultural resources assessments that have been performed within the vicinity of the project corridor.

Table 3-15: Previously-Recorded Historic Properties within One Mile of the Gulf Coast Parkway Study Area

Site #	Site Name	Site Type	Cultural Affiliation	State Historic Preservation Officer (SHPO) NRHP* Determination	Within Area of Potential Effect (APE)
8BY27	Laughton's Bayou Mound A	Prehistoric Burial Mound	Weeden Island I	Not Evaluated	N
8BY28	Laughton's Bayou Mound B	Prehistoric Burial Mound	Weeden Island	Not Evaluated	N
8BY32	Farmdale	Burial Mounds	Weeden Island	Not Evaluated	N
8BY110	Farmdale	Prehistoric Mound(s)	Swift Creek	Not Evaluated	N
8BY195	Tyndall AFB Aboriginal 8	Low Density Scatter	Fort Walton, Weeden Island	Not Evaluated	N
8BY794	Sandy Creek Mouth East Side	Low Density Scatter, Historic Refuse	American-20 th Century, Ft. Walton, Swift Creek, Weeden Island	Not Evaluated	N
8BY814	Lonesome Pine	Terrestrial	Santa Rosa-Swift Creek	Not Evaluated	N
8BY815	Two Hollies	Terrestrial	Middle Archaic	Ineligible	N
8BY893	Lathrop Bayou	Building Remains, Extractive Site, Farmstead, Historic Refuse, Terrestrial	American 20 th Century, Mid-20 th Century	Ineligible	N
8BY938	44 th Street	Low Density Scatter	Weeden Island	Ineligible	N
8BY958	Emil T. Schmidt Homestead	Building Complex	19 th Century	Listed on National Register of Historic Place(NRHP)	N
8BY1047	Walker Bayou	Extractive Site	Aboriginal	Ineligible	N
8BY1048	Tortoise Hill	Extractive Site	Aboriginal	Ineligible	N
8BY1087	Harmon's	Low Density Scatter	Weeden Island	Ineligible	N
8BY1088	Salt Creek	Low Density Scatter	Aboriginal	Ineligible	N
8BY1338	Goden Key Site	Terrestrial	Prehistoric-Unspecified	Ineligible	N
8GU30	Overstreet Bridge	Historic Bridge	Built 1952	Not Evaluated (destroyed)	N
8GU78	Overstreet Southeast	Low Density Scatter	Weeden Island	Not Evaluated	N
8GU84	Wetappo Creek	Campsite, Prehistoric lithics- non-quarry, Dense Artifact Scatter	Archaic-Unspecified, Late Archaic, Transitional (1000 B.C. to 700 B.C.)	Ineligible	N

*NRHP – National Register of Historic Places

Table 3-16: Previously Recorded Cultural Resources Assessments in the Vicinity of the Gulf Coast Parkway Study Area

Division of Historic Resources (DHR) #	Assessment Title	Author	Year
44	An Archaeological and Historical Survey of the Proposed Mexico Beach 201 Wastewater Treatment Facility (WWTF), Bay and Gulf Counties, FL.	Miller, James	1976
138	Partial Cultural Resource Inventory of Tyndall AFB, FL.	Knudsen, Gary; Stoutamire, James	1979
284	An Archaeological and Historical Assessment Survey of Bay County 201 WWTF.	Miller, James	1976
297	Cultural Resources Survey of Alabama Electric Cooperative, Inc., Overhead Transmission Line	Clute, Janet R.	1981
789	Trip Report on Cultural Resources Reconnaissance of Three Upland Disposal Sites on the Gulf Intercoastal Waterway, Bay County, FL.	Gibbens, Dorothy	1981
1134	Proposed Replacement of the Overstreet Bridge over the Intercoastal Waterway on SR 386 in Gulf County, FL.	Browning, William D.	1986
1387	Cultural Resources Investigation at Tyndall AFB, Bay County, FL.	Janice, Campbell; Thomas, Prentice	1985
2561	A Cultural Resources Assessment Report of the Gaskin to Wewahitchka 115 KV Transmission Line, Bay and Gulf Counties, Florida.	Brooms, MacDonald B.	1990
2717	Archaeological Survey of the Planned Gulf County Meter Station.	Athens, William	1991
3242	CRAS of SR-75 (US-231)	Irwin, C. L. and Carl McMurray	1992
3443	Archaeological Survey of the Planned Panama City North Meter Station and Lateral	Athens, William P.	1992
6433	An Archaeological Assessment of the Mexico Beach/St. Joe-Arvida Project, Bay County, FL.	Causey, Phillip	2001
6592	Supplemental Phase I Cultural Resources Survey and Archaeological Inventory of Proposed Additional Facilities and Corridor Alignments Associated with the Proposed Florida Gas Transmission Company Phase V Expansion Gulf Power Lateral in Bay and Washington Counties	Labadia, Catherine	2001
6657	Reconnaissance Survey, Sandy Creek Tract, Bay County, FL.	Myer, Joseph; Thomas, Prentice	2001
6808	Cultural Resources Assessment Addendum. An Archaeological Assessment of a 50-Acre Addition to the Mexico Beach/St. Joe-Arvida Project, Bay County, FL.	Causey, Phillip	2002
6989	An Intensive CRAS of the Mexico Beach River Camp, Bay County, FL.	Bland, Myles; Handley, Brent	2002
7444	A Cultural Resource Assessment of the Gulf to Bay Highway Project Development and Environment (PD&E) Study Area, Gulf and Bay Counties, FL.	Causey, Phillip	2002
8973	A Cultural Resources Assessment of the Bay Industrial Park Expansion, Bay County, Florida	Causey, Phillip	2003
10512	An Archaeological Assessment of the Mexico Beach/St. Joe-Arvida Annexation Parcel, Bay County, FL.	Causey, Phillip	2004
10893	A Cultural Resource Reconnaissance of the Proposed Bylsma Manor Subdivision in Bay County.	Earnest, Tray	2004
12219	A Cultural Resources Assessment of the Bonfire Beach Tract, Bay County, FL.	Stickler, Justin	2005
12243	Cultural Resources Investigations, Wetappo Creek Development Project, Gulf County, Florida	Campbell, L. Janice and Carrie Williams	2005
12779	A Cultural Resources Assessment of the Sagebrush Road Development Tract, Bay County, Florida	Cremer, David E.	2006

3.3.3 Parks and Recreation Facilities

Table 3-17 provides a list of parks and recreational facilities within or adjacent to the study area. Some major recreation areas outside the study area have been included because the proposed project would improve travel times and/or access to these areas. **Figure 3-14** shows the location of the parks and recreation facilities.

Category	Facility	Address	County	Map ID No.
Boat Ramps	Maude Holmes Boat Ramp	Sandy Creek Road Callaway, Florida	Bay	1
	Overstreet Boat Ramp	CR 386 Overstreet, Florida	Gulf	2
	Strange Bayou Boat Ramp	Farmdale Road East Bay, Florida	Bay	3
	Farmdale Bayou Boat Ramp	Farmdale Road East Bay, Florida	Bay	4
	Ira Hutchison Boat Ramp	CR 2321	Bay	5
Fishing Piers	37 th Street Fishing Pier	US 98 Mexico Beach, Florida	Bay	6
	Mexico Beach Canal Park	Mexico Beach	Bay	7
Community Parks	East Bay Community Park	11743 Bay Vista Drive East Bay, Florida	Bay	8
	HG Harders Recreational Complex	7900 John Pitts Road Panama City, Florida	Bay	9
	Callaway Recreational Complex	SR 22 Callaway, Florida	Bay	10
	Lynn Haven Recreational Complex	2201 Recreation Drive Lynn Haven, Florida	Bay	11
	Beacon Hill Community Park/Veterans Memorial Park	Lighthouse Avenue Beacon Hill, Florida	Gulf	12
Trails	Florida Circumnavigation Saltwater Paddling Trail	Gulf of Mexico	Bay and Gulf	13

Source: Bay County Geographic Information System (GIS) Division
Gulf County GIS Division

East Bay Community Park is primarily a social center park that encompasses 0.5 acre and includes a community building.

The HG Harders Recreational Complex is a 79-acre recreational park that includes picnic tables, pavilion, playground, air strip, and a boating pond. Recreational activities at this park include baseball, football, volleyball, soccer, and tennis.

The Callaway Recreational Complex spans 44 acres and consists of a community building, picnic, fishing pier, baseball, football, soccer, walking trail, playground, and concession stand.

The Lynn Haven Recreational Complex encompasses 72 acres and includes a community building, picnic tables, and pavilion. This athletic-based park includes activities such as baseball, basketball, football, volleyball, soccer, tennis, and a walking trail.

Figure 3-14: Park and Recreation Sites in the Gulf Coast Parkway Study Area



The Beacon Hill Community Park/Veterans Memorial Park is a 15-acre scenic park that borders US 98 in Gulf County. It includes beach access, walking path, playground, picnic tables, grills, restrooms, pavilion, horseshoe pit, and the athletic area includes a baseball field and basketball court.

St. Joseph Peninsula State Park is a 1,761 acre park offering a combination of public recreation along with conservation efforts. This park is outside the study area.

The Constitution Convention State Park & Museum located in Port St. Joe is a 14 acre property where the first Constitutional Convention of the State of Florida was held in 1838. This park is outside the study area

3.3.4 Section 4(f) Properties

Section 4(f) resources are *NRHP*-eligible historical sites and archaeological resources, and/or publicly owned parks, recreation areas, and wildlife or waterfowl refuges that are “used” by a transportation project. Known Section 4(f) resources within the study area that could potentially be affected by the proposed project include the Florida Circumnavigation Saltwater Paddling Trail and the Allanton Farmstead (8BY1348). The project area also includes the *NRHP*-eligible Old Overstreet Church/School (8GU193) and the Overstreet Firetower (8GU187).

Although the EST identified the ICWW Canoe Trail as a recreation resource that could potentially be eligible for Section 4(f) protection, the Florida Department of Environmental Protection (FDEP) has confirmed (Appendix J, Page J-167) that, although canoes may utilize the ICWW, there is no established ICWW Canoe Trail that is owned or managed by any public agency.

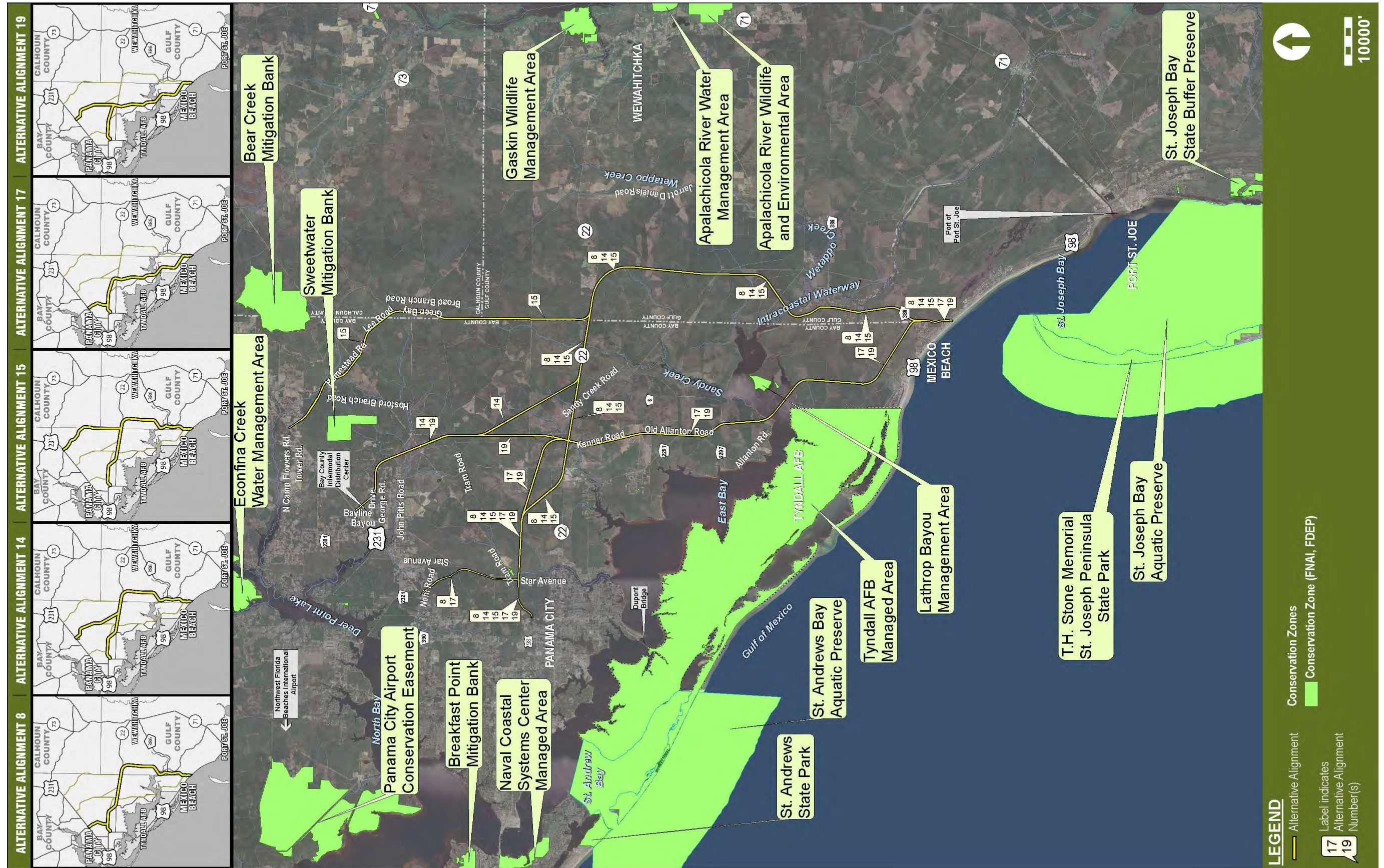
3.3.5 Conservation/Preservation Areas

Table 3-18 is a list of managed conservation lands in the vicinity of the Gulf Coast Parkway study area shown on **Figure 3-15**. St. Andrews Bay State Park and St. Joseph Bay have been designated Aquatic Preserves and are managed by the FDEP. Aquatic Preserves are also included in the FDEP list of Outstanding Florida Waters (OFW), a designation requiring the highest degree of protection – no degradation of the water quality. To ensure the protection of Aquatic Preserves, the FDEP, has published management plans for individual Aquatic Preserves.

Table 3-18: Managed Conservation Areas in the Gulf Coast Parkway Study Area

Conservation Area	Location	Conservation Area	Location
Econfina Water Management Area	Bay	T. H. Stone Memorial St. Joseph Peninsula State Park	Gulf
Airport Conservation Easement	Bay	St. Joseph Bay Aquatic Preserve	Gulf
Breakfast Point Mitigation Bank	Bay	St. Joseph Bay State Buffer Preserve	Gulf
Naval Coastal Systems Center Managed Area	Bay	Apalachicola River Wildlife and Environmental Area	Gulf
St. Andrew Bay State Park	Bay	Apalachicola River Water Management Area	Gulf
St Andrews Bay Aquatic Preserve	Bay	Gaskin Wildlife Management Area	Gulf
Sweetwater Mitigation Area	Bay	Bear Creek Mitigation Bank	Calhoun, Bay
Tyndall AFB Management Area	Bay	Lathrop Bayou Management Area	Bay

Figure 3-15: Conservation Areas in the Vicinity of the Gulf Coast Parkway



Econfina Water Management Area consists of approximately 41,000 acres and lies north of Deer Point Lake. This area protects listed species and natural systems, along with protecting Bay County's potable water supply within Deer Point Lake Reservoir

Panama City Airport Conservation Easement is managed by FDEP but owned by a private landowner (The St. Joe Company). It encompasses approximately 9,500 acres and conserves unique natural systems.

Breakfast Point Mitigation Bank is part of a mitigation plan to compensate for the loss of wetland functions within the Breakfast Point basin. It is owned by a private landowner (The St. Joe Company) and has an area of 4,637 acres.

The Naval Coastal Systems Center Managed Area is owned by the United States Navy and encompasses approximately 647 acres. It is adjacent to St. Andrew Bay and contains sensitive estuarine tidal marsh.

St. Andrew Bay State Park is a 1,260 acre park with over 1.5 miles of beach on the Gulf of Mexico and Grand Lagoon. It is a former military property that provides two natural trails within the park to view coastal plant and animal species.

St. Andrews Bay Aquatic Preserve was designated an Aquatic Preserve in 1972 and lies adjacent to St. Andrews State Park and includes part of St. Andrews Bay and further out to 3 miles offshore¹³. St. Joseph Bay Aquatic Preserve encompasses 73,000 acres of submerged land and includes areas surrounding the St. Joseph peninsula¹⁴.

Sweetwater Mitigation Bank is a mitigation bank, held by the FDEP, located within the headwaters of Bayou George Creek and Bear Creek watersheds.

Tyndall AFB Managed Area is approximately 18,000 acres of the base's 29,000 acres that remains in natural habitat. The native longleaf pine forest is being restored on these lands.

Lathrop Bayou Management Area is 182 acres adjacent to East Bay that is environmentally significant for supporting protected species such as the Red Cockaded Woodpecker.

T. H. Stone Memorial St. Joseph Bay State Park is one of the top rated beaches in the United States and protects some of the last remaining areas of coastal pine scrub. It is located on approximately 2,800 acres on the St. Joseph peninsula.

St. Joseph Bay Aquatic Preserve is a 55,674 acre area of state-owned sovereign submerged lands located inside and adjacent to St. Joseph Bay. It is managed by FDEP and protected for its important and diverse natural systems.

The St. Joseph Bay State Buffer Preserve, established in October 1995, consists of 5,019 acres on CR 30 adjacent to St. Joseph Bay. The preserve provides significant habitat for many endangered and threatened species, is utilized by migratory bird species during spring and fall migrations, and is a water recharge area and buffer to St. Joseph Bay, helping to protect the bay's water quality. It is owned by the Florida Board of Trustees and managed by the FDEP and the Apalachicola National Estuarine Research Reserve. It is also designated as a United States Environmental Protection Agency (USEPA) Gulf of Mexico Ecological Management Site.

The Apalachicola River Wildlife and Environmental Management Area is comprised of 86,140 acres managed by the Florida Fish and Wildlife Conservation Commission (FFWCC) for wildlife conservation and recreation opportunities.

The Apalachicola River Water Management Area consists of 36,315 acres along approximately 19 miles of riverfront.

Gaskin Wildlife Management Area is a wildlife management area that includes 810 acres managed by the Northwest Florida Water Management District (NFWFMD).

Bear Creek Mitigation Bank is approximately 3,030 acres in size and encompasses a variety of habitats. The area is also an important hydrologic recharge area for the Floridan Aquifer.

Land Uses Identified as Conservation

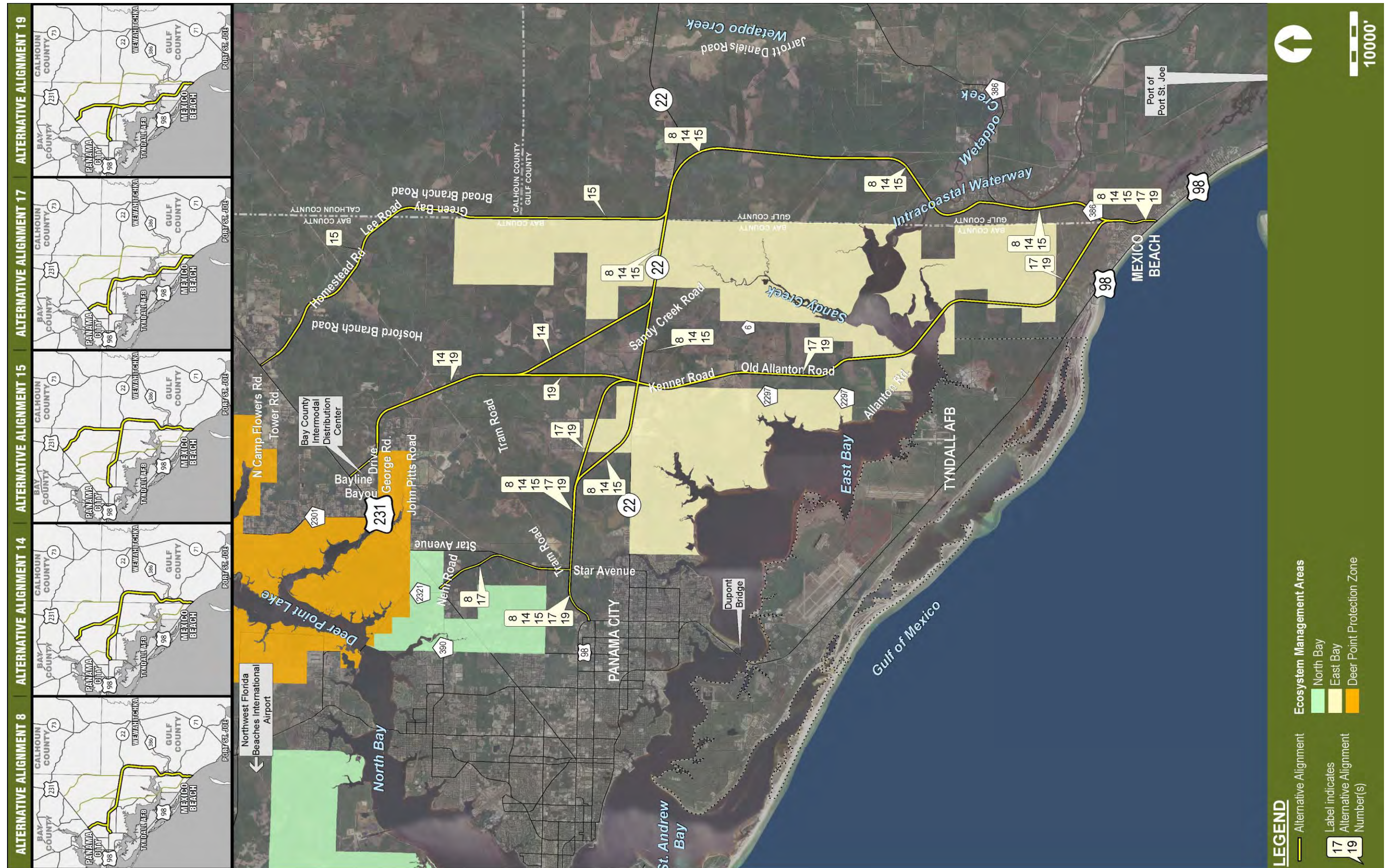
Bay County has established, through their comprehensive planning process, a conservation land use category. These include areas designated for preservation, conservation, and conservation/recreation. This designation does not imply that these privately-owned lands are being managed for conservation, but that the County has identified these lands as having resources worthy of protection and by designating these lands as such, the County can apply more restrictive regulations on development activities on these lands.

These conservation land use areas include lands around Deer Point Lake, North Bay, and East Bay (shown on the **Figures 3-17 and 3-18**, existing and future land use maps). Development in these areas is restricted according to Bay County's *Land Development Regulations*¹³ which establish allowable uses for the different conservation categories. Conservation Preservation Zones (CSVP) are the most strict allowing only public utilities and infrastructure necessary to support conservation preservation uses and passive recreation. The clearing of land is prohibited, except as required by county-approved Preservation Management Plans. The Conservation Recreation Zone (CSVR) allows recreational uses. Residential and public/institutional uses may be allowed if they are accessory to uses and structures within the zone. Clearing of land is prohibited except as required in accordance with county-approved Recreation Management, Fire Protection, and Security Management Plans. The Conservation Habitation Zone (CSVH) permits agricultural and silvicultural activities, recreation uses, public/institutional uses, and residential uses. Clearing of land is prohibited except as required in accordance with agricultural and silvicultural best management practices, and as required in accordance with county-approved Fire Protection Plans and construction permits.

Ecosystem Management Areas

In addition, there are areas with special designations that are singled out for additional protective measures. In the study area, these include ecosystem management areas (North Bay and East Bay), Deer Point Reservoir Area Protection Zone, and strategic habitat conservation areas. Ecosystem Management areas (**Figure 3-16**) are special treatment zones in which additional regulatory standards may be applied to protect natural resources. The same requirements and standards applicable to CSVH, CSVP, and CSVR zones also apply to ecosystem management areas. In addition, the appropriate sections of Chapter 19 of the Bay County *Land Development Regulations*¹⁵, specifically Section 1905, may apply to these areas. The development restrictions, which are applicable, unless it is demonstrated that no locally significant natural resources exist on the property subject to development or the developer can design and construct the development such that locally significant natural resources are preserved, or impact minimized, include the following:

Figure 3-16: Ecosystem Management Areas



- All stormwater runoff will be treated to Outstanding Florida Water (OFW) treatment standards.
- Any new point source discharge of sewage effluent into surface waters is prohibited.
- All onsite disposal systems will be located at least 100 feet upland of the United States Army Corps of Engineers (USACE) or the FDEP wetland jurisdiction line, whichever is more restrictive.
- Development will be undertaken so as to avoid activities that would destroy wetlands or the natural functions of wetlands except for activities or permits issued by state and federal agencies.

No building or structure can be located closer than thirty feet of the mean high water (MHW) or ordinary high water (OHW) line or within thirty feet of any FDEP jurisdictional line, whichever is more restrictive, except for piers, docks, or other similar structures and an attendant ten foot wide cleared path through the wetland for purposes of providing access to such structure, or wetland crossings required to connect dry, upland parcels. All native vegetation, if any exists, will be preserved within the 30-foot setback area, with exception to the allowed attendant path.

- No development will be permitted that can reasonably be expected to cause short or long term violations of state or federal water quality standards.
- Development projects may be clustered to avoid or preserve significant natural resources.

Bay County has established the Deer Point Reservoir Protection Zone to protect the water quality of the Deer Point Reservoir at or above the ambient levels existing at the time the original Deer Point Protection Zone Ordinance was adopted. All commercial activities are prohibited except those associated with conservation or conservation-related activities. Development density restrictions apply within the protection zone as do setback requirements, impervious surface limitations, onsite sewage disposal systems and stormwater treatment standards.

Another conservation category in Bay County's Comprehensive Plan is Strategic Habitat Conservation Areas. These areas are based on the publication *Closing the Gaps in Florida's Habitat Conservation System*¹⁶ (1994) published by the Florida Game and Freshwater Fish Commission (now FFWCC) which identified lands that must be conserved in order to sustain declining wildlife species and natural communities within the State. Developers of projects falling within a Strategic Habitat Conservation Areas must demonstrate through scientific evidence the presence or absence of rare, threatened, or endangered species. If present, the developer must provide a specific conservation plan to ensure survival of the species.

Based on a review of the above –referenced publication, a general Strategic Habitat Conservation Area in Bay County is the sandhills area in north Bay County; more precise locations include: coastal marshes along East Bay, and the Tyndall AFB/St. Andrews State Recreation Area. In Gulf County, Strategic Habitat Conservation Areas are located beyond the study area around the ` River and Lake Wimico. No federally-designated critical habitat is associated with the study area and alternative alignments. Individual species assessments are addressed in **Section 3.6.7**.

3.3.6 Bicycle and Pedestrian Facilities

Existing bicycle facilities within the study area are restricted to paved shoulders along US 231, US 98, and SR 22. Gulf County has a policy of requiring pedestrian and bicycle facilities be provided as part of development approval process, but no formal bicycle plan has been established. The Bay County Transportation Planning Organization (TPO) has a *Bicycle and Pedestrian Plan* developed with public input. Three most important issues identified in the planning process were trails and natural areas, connectivity, and neighborhood gathering places or village centers.

Bicycle and pedestrian crash records from September 2002 to September 2004 indicate that 3% of all bicycle crashes and 11% of all pedestrian crashes resulted in fatalities, a statistic that is higher than the statewide percentage for the same time period (statewide bicycle fatalities were 2% of all bicycle crashes and pedestrian fatalities were 6% of all pedestrian crashes statewide)¹⁷. Possible reasons for the higher concentration of crashes included the lack of sidewalks and poorly maintained and/or connected bike lanes/paved shoulders.

The Bay County TPO *Bicycle and Pedestrian Plan* with their project list¹⁸ paired with the *Bay County 2035 Long Range Transportation Plan (LRTP)* for implementing bicycle and pedestrian facility improvements throughout the county. Those projects within or adjacent to the Gulf Coast Parkway study area are listed in **Table 3-19**; however, only **those projects in bold type have potential for involvement with the project.**

Table 3-19: Bay County Bicycle and Pedestrian Projects (Active and Proposed) in Bay County

Roadway Name	From	To
SR 30A/US 98 (Tyndall Parkway)	SR 22/ Wewa Highway	Business 98
SR 30A/US 98 (15th Street)	SR 77/ MLK Boulevard	East Ave
SR 30 (Business 98)	US 231/ SR 75/ Harrison Avenue	Hamilton Avenue
SR 30 (Business 98)	Hamilton Avenue	CR 3026/ Cherry Street
SR 75 (US 231)	Midblock between 7th and 8th	CR 28/ 11th Street
SR 75 (US 231)	US 98/ SR 30A/ 15th Street	CR 368/ 23rd Street
SR 77	SR 30/ Business 98	CR 28/ 11th Street
SR 77	CR 2312/ Baldwin Road	17th St
SR 368 (23rd Street)	Lisenby Avenue	SR 77/ MLK Boulevard
SR 391 (Airport Road)	SR 75/ US 231	Airport Road
CR 28 (11th Street)	Lisenby Avenue	Harrison Avenue
CR 28 (11th Street)	Harrison Avenue	SR 77
CR 28 (11th Street)	East Avenue	Transmitter Road
CR 2327 (Transmitter Rd)	Wewa Highway	US 98
CR 2341 (Jenks Avenue)	23rd St	Baldwin Road
CR 28 (11th Street)	SR 77	Bay Avenue
Everitt Ave	US 98	11th St
SR 22 (Wewa Highway)	SR 30/ Business 98	CR 2327/ Transmitter Road
SR 30A/US 98 (15th Street)	US231/ SR 75/ Harrison Avenue	SR 77/ MLK Boulevard
SR 22 (Wewa Highway)	CR 2327/ Transmitter Road	SR 30A/ US 98/ Tyndall Parkway
SR 30A/US 98 (15th Street)	CR 2327/ Transmitter Road	SR 22/ Wewa Highway
SR 30 (Business 98)	Beach Dr	US 231/ SR 75/ Harrison Avenue
SR 30 (Business 98)	CR 3026/ Cherry Street	US 98/ SR 30A/ Tyndall Parkway
SR 75 (US 231)	Midblock between 12th and 13th	US 98/ SR 30A/ 15th Street
SR 77	CR 28/ 11th Street	SR 30A/ US 98/ 15th Street
SR 77	SR 30A/ US 98/ 15th Street	US 231
SR 77	SR 368/ 23rd Street	CR 2312/ Baldwin Road
SR 389 (East Avenue)	9th Street	SR 30A/ US 98/ 15th Street
SR 389 (East Avenue)	SR 30A/ US 98/ 15th Street	US 231/ SR 75
CR 28 (11th Street)	Bay Avenue	Sherman Avenue
CR 28 (11th Street)	Transmitter Road	US 98 (Tyndall Pkwy)
CR 2312 (Baldwin Rd)	SR 77	US 231
CR 3026 (Cherry St)	Business 98	US 98
CR 3026 (Cherry St)	US 98	Berthe Ave (CR 2323)
CR 2341 (Jenks Avenue)	Baldwin Road	SR 390
CR 389 (12th St)	US 231	CR 390
CR 22/ 2337 (Sherman Ave)	5th St	11th St
CR 2322 (7th St)	Transmitter Rd	Bob Little Rd
CR 28 (11th Street)	Sherman Avenue	East Avenue
SR 30A/US 98 (15th Street)	Jenks Ave	US231/ SR 75/ Harrison Avenue
SR 391 (Harrison Ave)	Airport Road	23rd Street
SR 75 (US 231)	CR 28/ 11th Street	Midblock between 12th and 13th
SR 75 (US 231)	Business 98/ 6th Street	Midblock between 7th and 8th
SR 389 (East Avenue)	SR 30/ Business 98/ 5th Street	9th Street
SR 22 (Wewa Highway)	SR 30A/ US 98/ Tyndall Parkway	Berthe Avenue
SR 75 (US 231)	CR 368/ 23rd Street	SR 2312/ Baldwin Road
SR 368 (23rd Street)	SR 77/ MLK Boulevard	US 231/ SR 75

Roadway Name	From	To
CR 2312 (Baldwin Rd)	Harrison Ave	SR 77
CR 2323 (Berthe Ave/ Boat Race Rd)	Boat Race Rd	Cherry Street
CR 2327 (Transmitter Rd)	US 98	US 231
CR 22/ 2337 (Sherman Ave)	15th St	East Ave
CR 2315 (Star Ave)	Wewa Highway	US 231
CR 2322 (7th St)	Bob Little Rd	US 98 (Tyndall Pkwy)
East Ave	Watson St	Bus 98
SR 30A/US 98 (15th Street)	East Ave	CR 2327/ Transmitter Road
CR 2312 (Baldwin Rd)	State Ave	Harrison Ave
SR 77	US 231	SR 368/ 23rd Street
CR 22/ 2337 (Sherman Ave)	3rd St	5th St
CR 22/ 2337 (Sherman Ave)	11th St	15th St
SR 75 (US 231)	SR 2312/ Baldwin Road	CR 2327/ Transmitter Road
SR 75 (US 231)	CR 2327/ Transmitter Road	CR 390
SR 75 (US 231)	CR 2293/ Star Avenue	Jonny Lane
CR 3026 (Cherry St)	Everitt Ave	Business 98
CR 2323 (Berthe Ave/ Boat Race Rd)	Cherry Street	SR 22 (Wewa Highway)
CR 2327 (Transmitter Rd)	US 231	CR 390
CR 390	CR 389	CR 2327
CR 390	CR 2327	US 231
CR 2315 (Star Ave)	Cole Ridge Road	Wewa Highway
SR 22	CR 2315/ Star Avenue	Bay County Urbanized Boundary (w of Callaway Road)
SR 22 (Wewa Highway)	SR 30A/ US 98/ Tyndall Parkway	CR 2315/ Star Avenue
SR 75 (US 231)	CR 390	CR 2293/ Star Avenue
SR 75 (US 231)	Jonny Lane	Jadewood Circle
CR 2321	CR 2302	US 231
SR 22	Bay County Urbanized Boundary (W of Callaway Road)	Gulf County Line
SR 30A (US 98)	Bay Urbanized Boundary (2.5 mi E of Ammo Road)	Gulf County Line/ Bay Metropolitan Planning Area (MPA) Boundary
CR 388	Bay Urban Boundary	US 231
CR 2301	US 231	Bay Urban Boundary
SR 75 (US 231)	Jadewood Circle	CR 388
SR 75 (US 231)	CR 388	Pamela Lane
US 98	Hathaway Bridge	Du Pont Bridge
11th Street	Beck Avenue	Tyndall Parkway
CR 390	SR 77	US 231
CR 2321	SR 77	US 231
11th Street	Tyndall Parkway	Sherman Avenue
Star Avenue	Cherry Street	US 231
Crayfish Trail	United States Air Force Petroleum Depot	US 231
Cato Road from to	US 231	CR 390
Crayfish Trail from to	US 231	Hilltop Lane
Pipeline Road	Country Lake Drive	CR 390

3.4 UTILITIES AND RAILROADS

Utility providers and railroad companies within or adjacent to the study area have been identified. Utility providers in the project area include both overhead and underground utilities. These utilities are Electric Power, Telephone, Cable Gas, Potable Water, and Sanitary Sewer. Two railroad lines are currently in operation within or adjacent to the project area and are discussed in **Section 3.4.2**. Coordination has been ongoing with the utility and railroad companies since the development of viable alternatives.

3.4.1 Utility Providers

Utilities present in the study area include electric, telephone, cable, gas, water, and sewer. Of these, centralized water and sewer services are generally found only in the urbanized areas near the project termini. **Table 3-20** provides the list of providers for these services in the study area.

Table 3-20: Utility Providers in the Gulf Coast Parkway Study Area

Utility Service	Utility Provider	Contact Information	Phone Number
Electric	Gulf Coast Electric Coop	Mr. Sid Dykes 9434 N. Highway 77 Southport, FL 32409	850-265-3631
	Gulf Power Company	Mr. Kenny Douglas 1230 E. 15 th Street Panama City, FL 32405-6144	850-872-3309
	Progress Energy	Mr. Rudy Seiler 4359 S. E. Maricamp Road Ocala, FL 34480	352-694-8552
Telephone	Fair Point Communications	Mr. Roy Lollie 502 Cecil G. Costing Sr. Blvd. Port St. Joe, FL 32456	850-229-7236
	AT&T	Mr. Hal Hinote 2221 Industrial Drive Panama City, FL 32405	850-913-3709
Cable	Knology	Mr. Randall Harrison 2143 Sherman Avenue Panama City, FL 32405	850-215-5719
	Comcast Cable	Mr. Ed Lang 1316 Harrison Avenue Panama City, FL 32401	850-769-2929
Gas	Teco Gas	Mr. Mike McQuire 301 Maple Avenue Panama City, FL 32401	850-914-6104
	Florida Gas Transmission	Mr. Joe Sanchez 601 S. Lake Destin Drive Suite 450 Maitland, FL 32751	407-838-7171
Potable Water and Sanitary Sewer	Bay County Utilities	Mr. Tim Beachum 3400 Transmitter Road Panama City, FL 32401	850-872-4785

3.4.2 Railroads

There are two railroad lines operating within or adjacent to the study area. The BAYL and the Apalachicola Northern Railway are shortline railroads owned by Genesee and Wyoming. The Apalachicola Northern Railway travels from Port Saint Joe, Florida through Apalachicola, Florida to Chattahoochee, Florida where it connects with CSX's Pensacola & Atlantic and Tallahassee Subdivisions.

The BAYL Railroad operates between Panama City, Florida and Abbeville, Alabama, with trackage rights on CSX's PA Subdivision at Cottdale, Florida, and their Dothan Subdivision near Dothan, Alabama.

The Apalachicola Northern Railway serves the Port of Port St. Joe and the BAYL Railroad services Port Panama City.

3.5 COMPREHENSIVE AND TRANSPORTATION PLANNING

After ETAT review of the project in EST, the Florida Department of Community Affairs (DCA) (now Department of Florida Department of Economic Opportunity {FDEO}) responded with the following comment concerning planning (comment and response presented in Appendix I):

- *FDCA – The project should be included in the Traffic Circulation Map and Capital Improvement Plan / infrastructure plan, and should be coordinated with the future land use plan.*

The Gulf County Comprehensive Plan supports the project in Policy 3.5.1. The addition of the project to the Traffic Circulation Map will occur upon selection of a preferred alternative. The project is included in the Bay County TPO 2035 LRTP, and is also identified in the Bay, Gulf, Holmes, and Washington Regional Transportation Partnership planning documents. This comment is addressed in the subsections below.

3.5.1 Local Government Comprehensive Plans

Neither county's comprehensive plans currently include a "Gulf Coast Parkway". However, amendments to include the Gulf Coast Parkway in these comprehensive plan updates have been submitted to the FDEO (formerly the FDCA).

Bay County - Bay County Comprehensive Plan¹⁹ Objective 4.9 states that the county will "Establish and maintain level of service standards for concurrency management purposes, and for determining when roadway improvements may be warranted." The Gulf Coast Parkway would assist the County in meeting this strategy by relieving congestion on deficient roadways in the study area. Objective 4.10 states that the county will "Assist and support efforts by DCA toward improving major state highway access to and exit from Bay County to provide more effective and efficient transportation movement and hurricane evacuation." The Gulf Coast Parkway would be consistent with this objective as it would improve the efficiency of the transportation network in eastern Bay County and as well as improve hurricane evacuation from the coastal areas of southeastern Bay County. Also, the Gulf Coast Parkway project is included on the Bay County TPO's 2035 LRTP *Direction 2035 Shaping Our Future Needs Assessment Amendment Report (February 2035)*. Therefore, the proposed Gulf Coast Parkway is consistent with the objectives outlined in the *Bay County Comprehensive Plan*. It is expected, after Federal Highway Administration (FHWA) approval of a preferred alternative, when an actual alignment will be established, that the project will be added to the Comprehensive Plan Traffic Circulation Map.

Gulf County - *Gulf County Comprehensive Plan*²⁰ Policy 1.2.3 in the Traffic Circulation Element states that “To improve hurricane evacuation, economic growth, and reduce impacts to Tyndall AFB, Gulf County encourages the creation of a new north/south regional roadway to Interstate 10 commonly referred to as the “Gulf Coast Parkway” and the “Gulf to Bay Highway”. Gulf County has indicated that after FHWA approval of a preferred alternative, when the actual alignment will be established, that the County will add the project to the Comprehensive Plan Traffic Circulation Map.

3.5.2 State and Regional Planning Agencies Perspectives

Bay and Gulf Counties are under jurisdiction of different Regional Planning Councils (RPC). Bay County is part of the West Florida RPC and Gulf County is part of the Apalachee RPC. The Gulf Coast Parkway is consistent with both of the RPC’s goals.

One of the issues in the Strategic Regional Policy Plan of the Apalachee RPC is to provide more travel choices²¹. The Gulf Coast Parkway was not identified in the Strategic Regional Policy Plan which was prepared in 1996. However, the Gulf Coast Parkway would provide more travel choices and accommodate bicyclists and pedestrians. This is important to ensure a wider range of access to the users of the Gulf Coast Parkway, while also improving the overall transportation system within the jurisdiction and adjacent jurisdictions. It is expected, after FHWA approval of a preferred alternative, when the actual alignment will be established, that the Regional Planning Council will add the project to its Strategic Regional Policy Plan.

The *Comprehensive Economic Development Strategy for the Apalachee Region of Florida*²² published by the Apalachee RPC in 2007 notes the Florida Department of Transportation (FDOT) planning section had recently completed a long range corridor analysis (through 2050) to better focus on long range planning efforts. Among the key policies utilized by the FDOT in their analysis was providing access to economically-distressed areas. Among the proposed corridor improvements identified for this policy was the link Gulf Coast Parkway between US 231 in Bay County and US 98 in Gulf County. It is expected, after FHWA approval of a preferred alternative, when the actual alignment will be established, that the Regional Planning Council will add the project to its Strategic Regional Policy Plan.

Transportation Improvement Program (TIP): Bay County is a designated urban county and is, therefore, a member of the Bay County TPO. Tyndall AFB has representation on the TPO Technical Coordination Committee (TCC). FDOT is working with the Bay County TPO to modify the recently adopted 2014-2018 Five-Year Work Program to include the design, right-of-way acquisition and construction phases for Segment 8 [from US 98 (Tyndall Parkway) to Star Avenue]], for which federal funding is available. The STIP will be modified to be consistent with the TIP. Preliminary engineering will be identified as occurring in 2014, right-of-way acquisition as occurring in 2015, and construction as occurring in 2016.

The Bay County TPO and the counties of Gulf, Holmes, and Washington became a new regional transportation partnership on September 28, 2005 by Interlocal Agreement using Chapter 163, F.S. This partnership was formed to implement regional coordination between the counties involved and to establish the regional partnership required under Section 339.2818 F.S. to be eligible for State Transportation Regional Incentive Program (TRIP) funding. The West Florida RPC serves as staff for the Bay, Gulf, Holmes, and Washington Regional Transportation Partnership. A regional network criteria and a regional transportation network map were adopted April 2006 and revised September 2007. The Gulf Coast Parkway project is shown on the Regional Transportation Network Map²⁵ for the Bay, Gulf, Holmes, and Washington Regional Transportation Partnership.

FDOT Five Year Work Program: Since Gulf County is not within a TPO, transportation improvements within the County are programmed by the FDOT. Because the Gulf County improvements are not

scheduled within the 2014-2018 Work Program, they will not show up in the work program until the appropriate five-year program. Those improvements within Bay County are programmed by the Bay County TPO. FDOT is working with TPO to add the preliminary engineering, right-of-way acquisition, and construction phases for Segment 8, to the TIP before adoption of the 2014-2018 STIP in October 2013.

State Transportation Improvement Program (STIP): The STIP is a federally mandated document which includes a listing of projects planned with federal funding over the next four years, but includes all projects in which FDOT has involvement regardless of federal or state funding. When the Bay County TPO modifies the TIP to include Segment 8 [from US 98 (Tyndall Parkway) to Star Avenue], it will be adopted into the STIP.

Regional Freight Management Plan – Highways of Commerce: The Regional Freight Management Plan identifies the Gulf Coast Parkway as a future Highway of Commerce because it “would provide higher speed, more efficient alternatives to congested areas, and moreover would divert through traffic away from older, highly urbanized areas not appropriate for heavy truck volumes.”

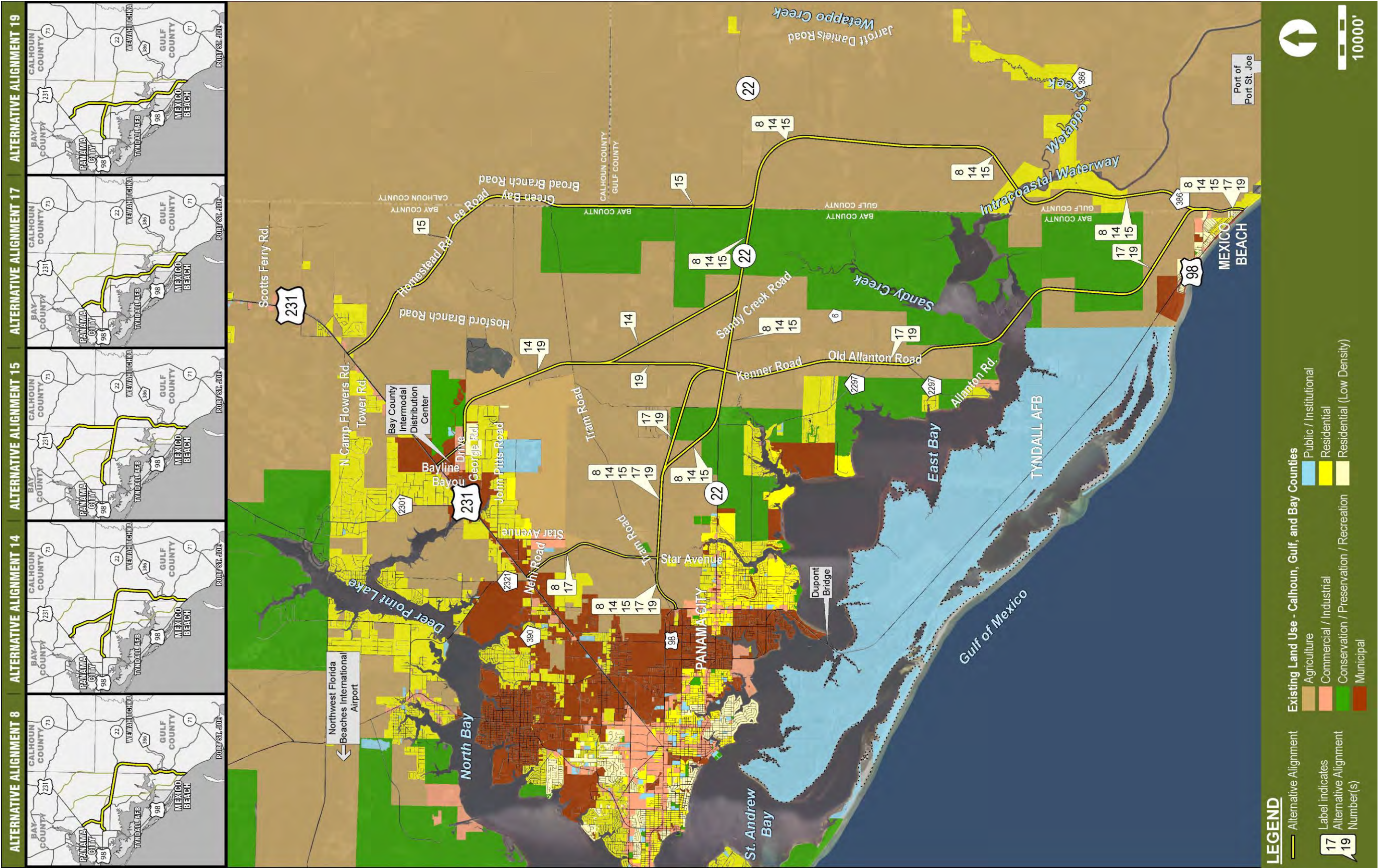
3.5.3 Coastal Zone Consistency

The Florida State Clearinghouse, in response to the Advance Notification (AN) for the project, wrote on November 1, 2005 that “the allocation of federal funds for the PD&E Study is consistent with the Florida Coastal Management Program (FCMP). Final concurrence on the project’s consistency with the FCMP will be determined during the environmental permitting stage.” See **Appendix I**.

3.5.4 Existing Land Use

The Existing Land Use Maps for Gulf and Bay County is provided in **Figure 3-17**. Due to the large study area for the Gulf Coast Parkway, a variety of existing land uses is encountered. Beginning at the southern terminus of the project, the land uses are a mix of commercial and residential. These land uses predominate up through the Overstreet area. From CR 386 north to SR 22 and along SR 22 to the Star Avenue area, the land use is predominantly agricultural. From Star Avenue west, the land use is residential then transitions to commercial as SR 22 approaches US 98. Following Star Avenue north of SR 22, the land use begins as agricultural, transitions to residential and in the vicinity of US 231 becomes commercial. At the southernmost portion of US 231, there is a blend of commercial and residential land uses, along with a parcel of industrial land use. Continuing northward on US 231, the land use shifts to agricultural use up to Scotts Ferry Road, with small portions of residential and commercial land uses. From Scotts Ferry Road east, the land use is dominated by agricultural use which includes timberlands and several farms. The agricultural land use is consistent as it approaches SR 22 and through the Jarrott Daniels Road to the Overstreet area.

Figure 3-17: Gulf and Bay County Existing Land Use



3.5.5 Future Land Use

Future land uses for Gulf and Bay County are shown on **Figure 3-18**. Gulf County indicated that their existing and future land use maps were the same. In Bay County, an area along the northern half of Star Avenue extending as far west as Jetton Lane and as far north as Johnny Lane is designated City Incorporated (Panama City). Within this area, along John Pitts Road, the land use is residential except for a large area of recreation and public/institutional south of John Pitts Road at Old Majette Tower Road. A majority of the land use in Bay County will remain unchanged from their existing land use map.

3.5.5.1 Development Interest and Vested Rights

The Bay County Land Development Regulations have established a Transfer of Development Rights (TDR) program to preserve lands and resources identified in the Bay County Comprehensive Plan which are designated as TDR sending sites. Owners of TDR sending sites receive the benefits of their development rights on the TDR sending site through the transfer of those development rights to a TDR receiving site. This encourages development in a manner consistent with the comprehensive plan.

Included with this policy is the concept of “intensity rights” which means the quantity of intensity of development. Intensity rights may only be transferred to TDR receiving sites to increase the intensity of development and does not authorize increased residential densities. Residential density rights or “transferable density” increase the maximum residential density for dwelling units and not the intensity of development. A TDR receiving site may only receive the transfer of residential density rights or the transfer of intensity rights within a TDR sending site, but not both.

3.5.5.2 Proposed Developments

Town, resort, and subdivision development is being pursued across Northwest Florida. Proposed developments along US 98 include Village Center South and Fisherman’s Village North, both within the WindMark development.

Waterford Village, a proposed development in the Overstreet area, is located on the south side of CR 386. Further along CR 386 are Wetappo Creek, Magnolia Reserve, Gulf Pines LLC, Cottages at Coastal Pines, Buckhorn Ranch, Woodbrooke Cove, and South Long Estate Phase II/Easy Waters.

Proposed developments along SR 22 include Kali Lakes, a 325-lot development at SR 22 and CR 2297; Wildwood Traces, a 126-unit development; Mills Harbor Subdivision, a 10-acre low-density development in Cedar Grove; Park Place, a 257 unit development in Callaway; and Sanctuary at Bayou Village, a 122-unit development in Callaway.

A development adjacent to or in the vicinity of US 231 includes Blinson Chase, a 20-acre low-density residential development in Cedar Grove.

3.5.5.3 Permitted Developments

In Gulf County, there are two large permitted developments, WindMark, a Development of Regional Impact (DRI) located on US 98 between CR 386 and Port St. Joe, and Wetappo located adjacent to and north of Wetappo Creek near Overstreet. In addition, a recent zoning change will allow a major mixed-use development on the old mill site in the City of Port St. Joe. Six hundred residential units and 350,000 square feet of retail space are planned on 160 acres of the 330-acre site. The commercial district will include a public waterfront on St. Joseph Bay that will also serve as a civic gathering place and entertainment district. An additional 150,000 square feet has been designated for office space.

Another coastal Gulf County development is Sunset Village – Phase III at the southern end of St. Joe Beach.

Developments occurring inland along CR 386 include the Landings at Wetappo Creek which features 16 lots on 114 acres; the 481-acre master planned community known simply as Wetappo which promotes its deep water access to inland waterways; Sunshine Subdivision; and South Long Estate Phase II/Easy Waters in Overstreet.

Bay County residential developments of greater than one hundred units located within the general vicinity of the proposed project include East Bay - Phase 1, Laird Point - Phase 1, Cedar Crossing, Cherokee Heights - Phase IV; Riverside - Phase II in Cedar Grove; Bridge Harbor, a 154-acre development in Callaway; and Sweetwater Village, a 108-acre residential development; and Kali Lakes, a 325-lot residential subdivision south of SR 22.

Smaller residential developments include Southern Pines, a 77-acre residential development in Callaway, Plantation Heights, a 19-lot subdivision in Bay County, and Phase III of the Sandy Creek Airpark, a 45-acre multi-family development in Springfield.

3.5.5.4 Commercial and/or Industrial Developments

Planned or permitted commercial and industrial developments within or adjacent to the study area include:

- Allanton Harbor Phase I, proposed infrastructure and dock at Eastern Ship Building Yard.
- The Douglas Dykes Business Center, a 5,000 sq. ft. building, located at the intersection of SR 22 and Berthe Avenue in Callaway;
- Cedar Grove Commerce Park, a 51-acre development in Cedar Grove;
- Premier Brush, Inc., a 6,000 sq. ft. building located on 3.7 acres near Industrial Drive;
- Gulf Power Highland City Substation, expansion of existing substation on 17 acres near US 231;
- Pinnacle Tower Relocation, relocate existing 321 foot cell tower on 23.3 acres near US 231;
- Boggy Creek Tower, proposed 180 ft. telecommunications tower on 625 acres near SR 22;
- Vulcan Materials, proposed storage of aggregate materials on 45.8 acres near Industrial Drive;

- Sandy Creek Hangar, proposed aircraft hangar with fuel tank on 1.8 acres near Airway street; and
- Marina Cove, a 41-lot development in Panama City.

The general locations of these and other planned developments or properties where development plans are being prepared are shown on **Figure 3-19**.

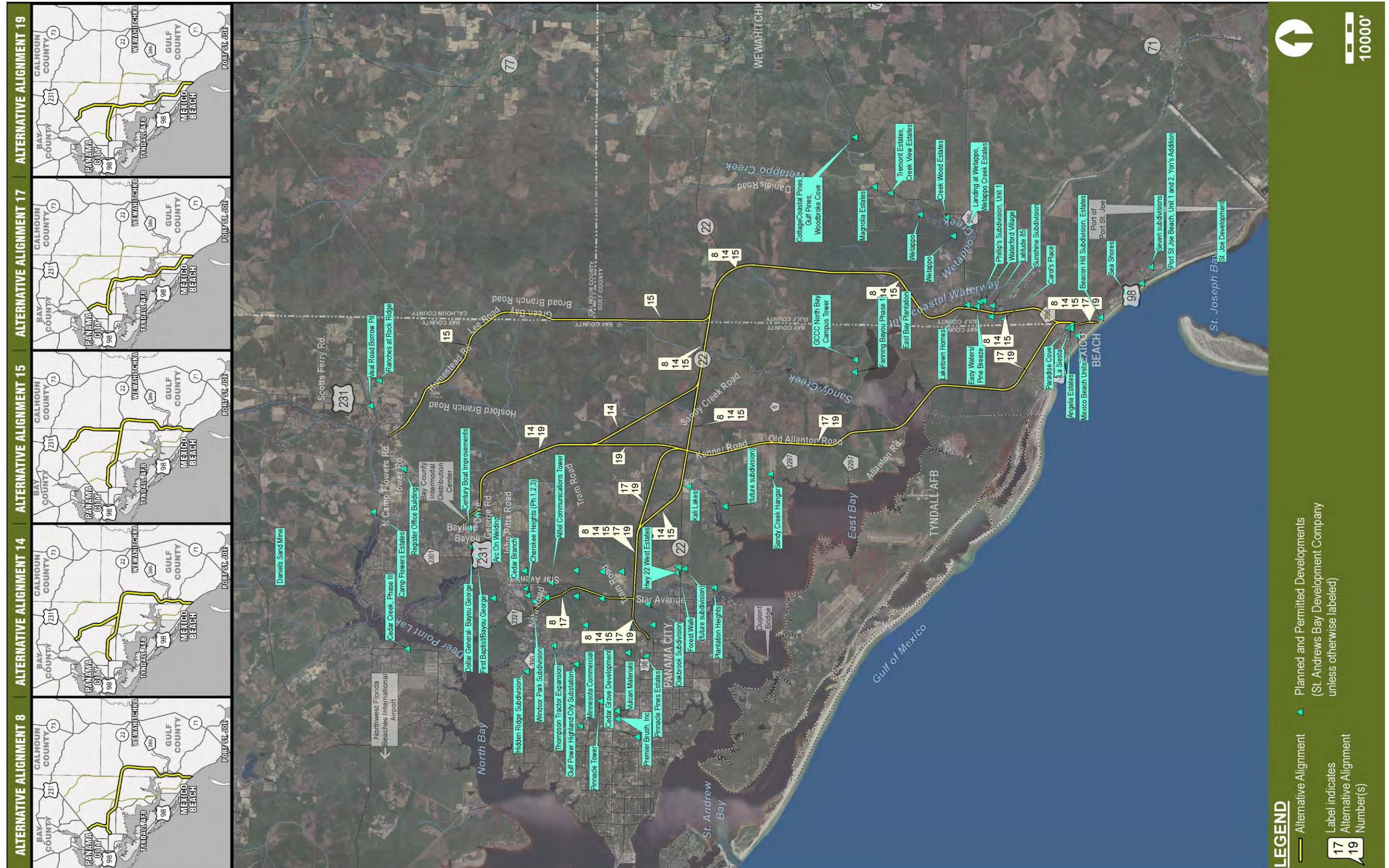
3.5.6 Neighborhoods and Subdivisions

Existing neighborhoods and subdivisions within or adjacent to the study area are listed in **Table 3-21**.

Table 3-21: Existing Neighborhoods/Subdivisions in Gulf and Bay Counties

Subdivision	Location	County
Beacon Hill Subdivision	East of alt. 8, 14, 15, 17, & 19 in Mexico Beach	Gulf
Angela Estates	601 15th St, Mexico Beach, FL, 32410	Bay
La Siesta Subdivision	La Siesta Dr, Mexico Beach, FL, 32410	Bay
Paradise Cove	Paradise Cove Blvd./Highway 386 alt.	Bay
Carol's Place	West of Proposed alt. 8, 14, & 15	Gulf
Sunshine Subdivision	West of Proposed alt. 8, 14, & 15	Gulf
Latitude 85	East of Proposed alt. 8, 14, & 15 near ICWW	Gulf
Waterford Village	East of Proposed alt. 8, 14, & 15 near ICWW	Gulf
Phillip's Subdivision	East of Proposed alt. 8, 14, & 15 near ICWW	Gulf
Easy Waters/Pine Breeze	East of Proposed alt. 8, 14, & 15 near ICWW	Gulf
Laketown Homes	East of Proposed alt. 8, 14, & 15 near ICWW	Gulf
Wetappo Creek Estates	Near Highway 386 by Wetappo Creek	Gulf
Creek Wood Estates	Near Highway 386 by Wetappo Creek	Gulf
Tremont Estates	Near Highway 386 by Wetappo Creek	Gulf
Magnolia Estates	Near Highway 386 by Wetappo Creek	Gulf
East Bay Plantation	West side of alt. 8, 14, & 15 East Bay/ICWW	Gulf
Cottage Coastal Pines	Near Highway 386 by Wetappo Creek	Gulf
Gulf Pines	Near Highway 386 by Wetappo Creek	Gulf
Woodbroke Cove	Near Highway 386 by Wetappo Creek	Gulf
Fanning Bayou (Phase 1)	Between alt. 8, 14, & 15/ 17 & 19 near Sandy Creek/ East Bay	Bay
Kali Lakes	South of Highway 22 near Laird Bayou	Bay
Ranches at Rock Ridge	North of alt. 15	Bay
Highway 22 West Estates	South of alt. 8, 14, 15, 17 & 19 on Highway 22, East of Star Ave.	Bay
Forest Walk	South of alt. 8, 14, 15, 17 & 19 on Highway 22, East of Star Ave.	Bay
Plantation Heights	East of Callaway Bayou. South of all alternatives	Bay
Oakbrook	South of all alternatives West of Star Ave.	Bay
Pinnacle Pines Estates	South of Highway 98. West of alternatives	Bay
Cedar Branch	West of Star Ave., South of Highway 231 Near alt. 8 & 17	Bay
Cherokee Heights (Phase 1,2,3)	West of Star Ave., South of Highway 231 Near alt. 8 & 17	Bay
Windsor Park	West of Star Ave., South of Highway 231 Near alt. 8 & 17	Bay
Hidden Ridge	North of 390 and Highway 231	Bay
Cedar Creek (Phase 3)	West of Deer Point Lake, NW of alternatives	Bay
Camp Flowers Estates	N. Camp Flowers Rd., North of Highway 231 and alternatives	Bay

Figure 3-19: Planned and Permitted Residential and Commercial Developments in the Gulf Coast Parkway Study Area



3.5.7 Prime and Unique Farmlands

In accordance with the Farmland Protection Policy Act (FPPA) of 1984, coordination with the Natural Resource Conservation Service (NRCS) has been conducted for this project. The AD-1006 United States Department of Agriculture (USDA) Farmland Conversion Impact Rating form including the alternative alignments were sent to the NRCS on August 21, 2009. The NRCS Soil Scientist analyzed the AD-1006 form and returned it on August 31, 2009 (**Appendix J**).

Using the USDA-NRCS Soil Data Mart website, the NRCS determined that Prime Farmlands occur within the project area. Prime Farmland is defined as land that has the best combination of physical and chemical characteristics for producing agriculture, and is classified by soil types. In the Gulf Coast Parkway project area, MU 5 (Robertsdale fine sandy loam) and MU 17 (Florala loamy sand, 0 to 2% slopes) is identified as Prime Farmland. This area is shown in the Prime and Unique Farmland discussion in Section 4.

Unique Farmland is described as land other than Prime Farmland that is used for the production of specific high-value food and fiber crops. NRCS did not identify any Unique Farmlands occurring within the project area.

3.6 NATURAL AND PHYSICAL ENVIRONMENT

3.6.1 Water Resources

Water resources are abundant in the area and classified into three following categories: surface water, ground water, and wetlands.

3.6.1.1 Surface Water

The study area is located in St. Andrews Bay watershed, which is the only major basin in the Florida Panhandle that lies entirely in Florida (**Figure 3-20**). It includes Deer Point Lake Reservoir, St. Joseph Bay, St. Andrews Bay, East Bay, West Bay, and North Bay. No large river systems drain into the estuary comprised of the interconnected St. Andrews Bay, West Bay, North Bay, and East Bay, which contributes to its overall low turbidity, high water quality, high salinity, and clean sediment²⁶.

The Gulf of Mexico and East Bay are the predominate defining natural features adjacent to the study area. Other named waterbodies occurring within the project study area are listed in **Table 3-22**. The major freshwater creeks entering East Bay are those entering Callaway Bayou, Cooks Bayou, Laird Bayou, and Sandy Creek on the north side and the small creeks entering the bayous on Tyndall AFB.

Table 3-22: Surface Waterbodies within the Gulf Coast Parkway Study Area

Waterbody			
Bayou George	Big Branch	Cypress Creek	Little Wetappo Creek
Bear Creek	Bird Road Slough	Eagle Nest Bayou	Mill Bayou Branch
Deer Point Lake	Blue Branch	Grape Swamp Branch	Minge Branch
East Bay	Boggy Creek	Hammock Branch	Mule Creek
North Bay	Brill Branch	Horseshoe Bayou	Olivers Creek
Baker Bayou	California Bayou	Intracoastal Waterway	Parker Branch
Farmdale Bayou	Callaway Bayou	Island Branch	Reedy Creek
Lathrop Bayou	Callaway Creek	Joe Lamb Branch	Richard Bayou
Walker Bayou	Clear Creek	Laird Bayou	Sandy Creek
St. Andrews Bay	Cooks Bayou	Lawton Branch	South Fork Bear Creek
St. Joseph Bay	Cushion Creek	Little Sandy Creek	Wetappo Creek
Beelwood Branch			

Figure 3-20: St. Andrew’s Bay Watershed



3.6.1.2 Ground Water

This project does not lie within a Sole Source Aquifer or within the boundaries of a Sole Source Aquifer recharge and streamflow zone. The groundwater system underlying Bay and Gulf counties consists of three aquifers: 1) the Surficial, or water table, aquifer; 2) the upper Floridan, or Intermediate, aquifer; and 3) the lower Floridan aquifer. The water table aquifer lies just below the land surface and, except in low lying areas and extends throughout both counties. It is open to infiltration from rainfall in varying degrees, depending on the percolation characteristics of surface soils and the extent of impervious surfaces which have been created in the urban areas of each county. The water table aquifer and surface water systems are interconnected, with the aquifer contributing to base flow levels of the surface waters. The majority of water infiltrating the water table aquifer travels in a southwesterly direction from higher elevations to natural discharge areas such as lakes, streams or marshes.

The upper Floridan Aquifer has lower permeability than either the Surficial Aquifer or the lower Floridan Aquifer. However, in coastal areas of both counties, where the upper Floridan Aquifer reaches a thickness of 200 to 300 feet, it is a locally important aquifer. Underlying the upper Floridan Aquifer is the lower Floridan Aquifer. The aquifer thickness ranges from about 600 feet to more than 1,400 feet in both counties.

3.6.1.3 Drainage

There are three major basins within the study area: Callaway Creek, Sandy Creek, and Bayou George Creek. Callaway Creek and Sandy Creek drain to East Bay. Bayou George Creek drains to Deer Point Lake which eventually drains to St. Andrews Bay. All of the tributaries along the project area drain to either East Bay or St. Andrews Bay and are part of the St. Andrews Bay watershed.

Appropriate maintenance personnel were contacted to determine if there are hydraulic inadequacies with existing structures. Email correspondence with Harvey Brewton, FDOT Maintenance Engineer, Panama City, indicated that Sandy Creek Bridge on SR 22 has experienced flooding and may need more hydraulic capacity. Further details regarding drainage concerns for the project are discussed in the *Gulf Coast Parkway Location Hydraulics Report*.

3.6.1.4 Water Quality

All surface waters in Bay and Gulf counties have been classified by the FDEP. FDEP's Surface Water Classifications²⁷ are as follows: Class I waterbodies are potable water supplies used as drinking water supply, Class II waterbodies are for shellfish propagation and harvesting, and Class III waterbodies are used for recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Class I and Class II waters receive the highest protection. Those surface waters within the project study area that are Class I or Class II are listed in **Table 3-23**. All other surface waters are Class III waters. **Figure 3-21** shows the locations of the Class I, Class II and Class III drainage basins in the study area.

Special surface water designations include Aquatic Preserves and OFW discussed in **Sections 3.6.2 and 3.6.3**, below. Another special designation is Surface Water Improvement and Management (SWIM) priority waters. In the study area, the St. Andrew Bay watershed, including Deer Point Reservoir is included in the SWIM program. This program provides interagency cooperation to restore and manage at-risk surface waters.

Figure 3-21: Drainage Basins by Surface Water Classification

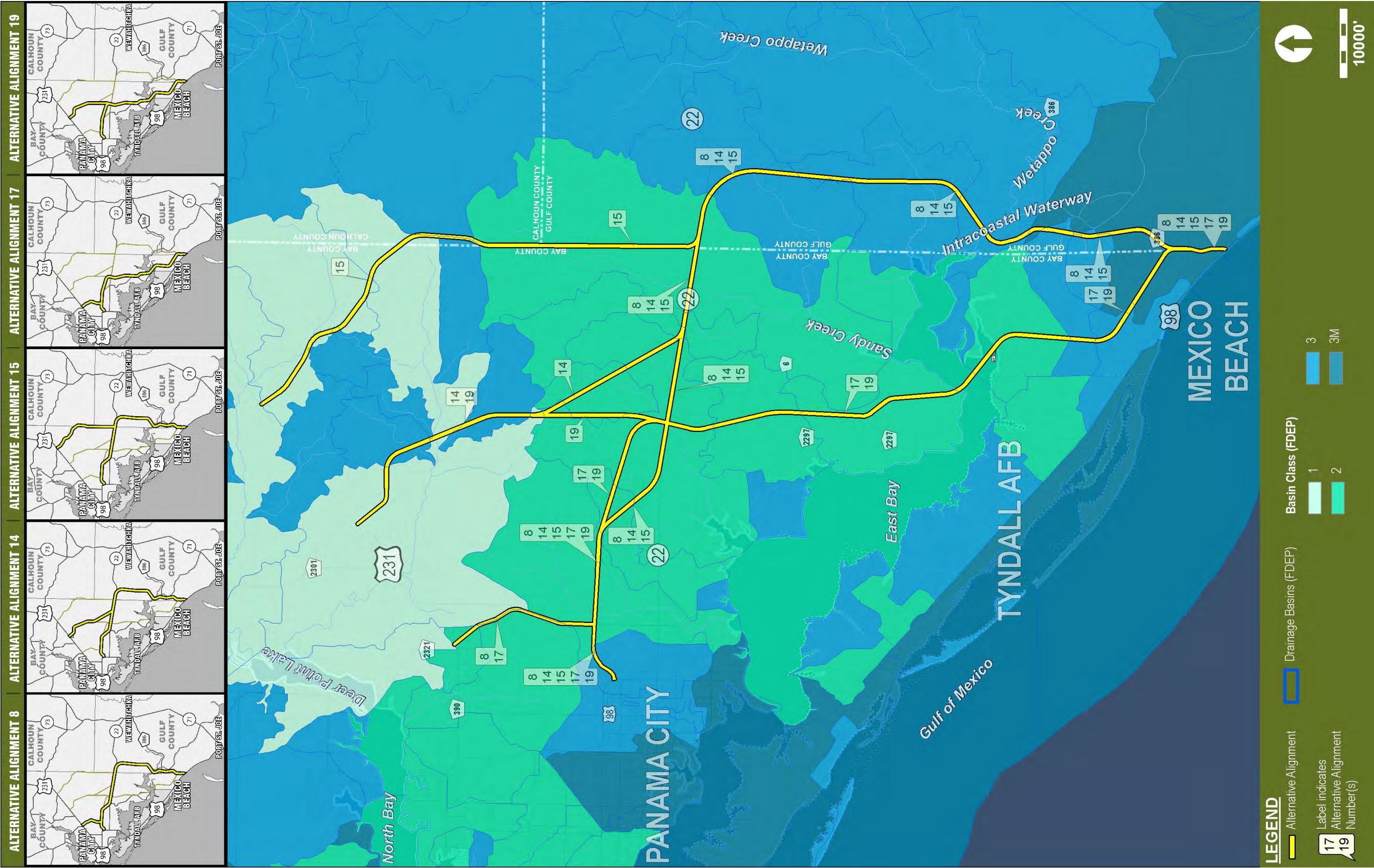


Table 3-23: Class I and II Waters in the Gulf Coast Parkway Study Area

Water Body	Class	Special Classification
Bayou George	Class I	
Bear Creek	Class I	SWIM
Deer Point Lake	Class I	SWIM
East Bay	Class II	
North Bay	Class II	
Baker Bayou	Class II (East Bay tributary)	
Farmdale Bayou	Class II (East Bay tributary)	
Lathrop Bayou	Class II (East Bay tributary)	
Walker Bayou	Class II (East Bay tributary)	
St. Andrews Bay	Class II	Aquatic Preserve
St. Joseph Bay	Class II	Aquatic Preserve

The Deer Point Reservoir is the source for almost all of the public drinking water in Bay County. Surface water in the reservoir is collected from the 442 square miles watershed surrounding the reservoir and 4 main tributaries comprising Econfin Creek, Bear Creek, Big Cedar Creek, and Bayou George Creek. The Deer Point Watershed spans the counties of Bay, Washington, Jackson, and Calhoun. On average, 600 million gallons of water per day enter the reservoir from its tributaries. Approximately 45 million gallons of water per day are withdrawn from the reservoir for industrial and potable water use. The remaining 550 million gallons of water per day overflows the dam and enters North Bay.

Potable water is pumped from the Deer Point Reservoir to the Bay County Water Treatment Plant. The water is disinfected, filtered and distributed to Panama City, Panama City Beach, Lynn Haven, Callaway, Cedar Grove, Gulf Coast Electric Cooperative, Mexico Beach, Parker, Springfield, and Tyndall AFB.

Potable water is obtained throughout many areas of Gulf County by NFWFMD permitted wells. The Fresh Water Canal in Gulf County is the primary alternative water supply source. The limitation of this source is permitted withdrawal levels from the Chipola River and water treatment plant capacities in coastal Gulf County. Action plans are underway for a permitted potable water supply system for coastal Gulf County nearly everywhere south of the ICWW. This, in turn, will support the goal of reducing aquifer withdrawals for the area.

3.6.1.5 Impaired Waters

The USEPA has requested that the states merge their reporting requirements under the Clean Water Act for Section 305 (b) surface water quality reports and the Section 303 (d) lists of impaired waters into an *Integrated Water Quality Monitoring and Assessment Report*. In response, the FDEP delineated waterbodies or waterbody segments in each of the state's river basins, assessed them for impairment based on individual parameters, and placed them into one of five major assessment categories and subcategories which provide information of the waterbody's status based on water quality, sufficiency of data, and the need for Total Maximum Daily Load (TMDL) development. A TMDL represents the maximum amount of a given pollutant that a waterbody can assimilate and meet the waterbody's designated beneficial uses. A waterbody that does not meet its designated beneficial uses is defined as impaired. The impairment may be for one or more parameter.

A second rotation of analysis by FDEP of the water quality in the basin resulted in revision to the list of verified impaired waterbody segments and delisting of some waterbody segments previously identified as impaired on January 15, 2010. Those previously identified verified impaired waterbody segments that are to be delisted are: Waterbody Identification (WBID) 1172 (Pitts Bay), WBID 1061FB (Dupont Bridge),

WBID 8015B (East County Line), WBID 8015C (Lookout Beach), WBID 8015D (Beacon Hill Beach), and WBID 8015E (St. Joe Beach). **Table 3-24** identifies those waterbody segments in the study area that appear on the most current verified impaired list.

Table 3-24: Verified Impaired Waters in the Gulf Coast Parkway Study Area

WBID	Water Body Segment Name	Type	Class	Parameter	Priority for TMDL Development
553A	Deerpoint Lake	Lake	3F	Mercury (in Fish Tissue)	High
1060	Direct Runoff to Bay	Stream	3F	Dissolved Oxygen (Nutrients, BOD)	Medium
				Nutrients (Chlorophyll-a)	Medium
1061D	East Bay (West Segment)	Estuary	3M	Mercury (in Fish Tissue)	High
1061F	East Bay (East Segment)	Estuary	2	Mercury (in Fish Tissue)	High
				Bacteria (in Shellfish)	Low
1061H	North Bay (North Segment 2)	Estuary	2	Mercury (in Fish Tissue)	High
1086	Mill Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1088	Beatty Bayou	Estuary	2	Mercury (in Fish Tissue)	High
				Fecal Coliform	Low
1110	Calloway Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1111	Sandy Creek	Stream	3F	Fecal Coliform	Low
				Bacteria (in Shellfish)	Low
1127	Laird Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1141A	Parker Creek	Stream	3	Dissolved Oxygen (Nutrients, BOD)	Medium
1141B	Parker Bayou	Estuary	2	Fecal Coliform	Low
1142	Boggy Creek	Stream	2	Fecal Coliform	Low
1155	Little Sandy Creek	Stream	3F	Dissolved Oxygen (Nutrients, BOD)	Medium
1162	Mule Creek	Stream	2	Fecal Coliform	Low
1170	Direct Runoff to Bay	Estuary	3M	Mercury (in Fish Tissue)	High
1171	California Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1172	Pitts Bay	Estuary	3M	Mercury (in Fish Tissue)	High
1184	Direct Runoff to Bay	Stream	3F	Dissolved Oxygen (Nutrients, BOD)	Medium
				Nutrients (Chlorophyll – a)	Medium
1196	Fred Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1209	Eagle's Nest Bayou	Estuary	2	Mercury (in Fish Tissue)	High
				Fecal Coliform	Low
1211	Ammo Lake Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1212	Direct Runoff to Bay	Estuary	3M	Mercury (in Fish Tissue)	High
1230	Walker Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1235	Farmdale Bayou	Estuary	2	Mercury (in Fish Tissue)	High
1238	Panther Swamp	Estuary	3M	Mercury (in Fish Tissue)	High
1254	Brown's Bay	Estuary	3M	Mercury (in Fish Tissue)	High
8015	Gulf of Mexico	Coastal	3M	Mercury (in Fish Tissue)	High
8015A	Eighth Street	Beach	3M	Bacteria (in Shellfish)	Low

Notes:

BOD = Biological oxygen demand

F = Freshwater

M= Marine

3.6.2 Aquatic Preserves

In 1975, Florida enacted the Aquatic Preserve Act to protect unique and exceptional submerged coastal lands, including water quality. These preserves offer diverse wildlife and habitat, recreational opportunities, and protect Florida's cultural heritage. Two aquatic preserves are adjacent to the study area (see **Figure 4-25** in Section 4), the St. Joseph Bay Aquatic Preserve and the St. Andrew's Bay Aquatic Preserve. St. Joseph Bay is notable for being the only embayment in the eastern Gulf of Mexico without a major source of surface freshwater inflow.

3.6.3 Outstanding Florida Waters

OFW are surface waters receiving special protection due to their natural attributes (Section 403.061 F.S.). The intent of an OFW designation is to maintain the ambient water quality. Most OFWs are associated with managed areas in the state or federal park system. Other OFWs have been designated based on a finding that the waters are of exceptional recreational or ecological significance²⁷.

OFWs within or adjacent to the Gulf Coast Parkway study area include St. Andrews State Park Aquatic Preserve, St. Joseph Bay Aquatic Preserve, Dead Lakes State Recreation Area and the Chipola River (see **Figure 4-28** in Section 4).

3.6.4 Coastal Barrier Resources

The Coastal Barrier Resources Act of 1982 (CBRA) designated undeveloped, private coastal barrier lands and associated aquatic habitat as part of the Coastal Barrier Resource System. This act prohibits federal expenditures that tend to encourage development or modification of coastal barriers. The Coastal Barrier Improvement Act of 1990 (CBIA) expanded the definition of coastal barriers and created a new category known as "Otherwise Protected Areas" (OPA). OPAs provide additional protection of coastal barrier lands designated for conservation purposes, such as national wildlife refuges and state parks, in order to discourage development of privately-owned inholdings. The only federal expenditure prohibited in OPAs is flood insurance. OPAs are identified by an upper-case "P" following the Unit number.

In Gulf and Bay Counties there are several Coastal Barrier Resource Units (listed in **Table 3-25** and shown in **Figure 4-30** in Section 4).

Table 3-25: Coastal Barrier Resource Units in Bay and Gulf Counties

County	Unit Number	Unit Name
Bay County	P31	St. Andrew Complex
	P31, P31P	St. Andrew Complex
	93P	Phillips Inlet
Gulf County	P30, 30P	Cape San Blas
	FL-92	Indian Peninsula

Of the coastal barrier units listed in **Table 3-25**, the only units in the vicinity of the project study area are the Cape San Blas Unit (P30/P30P) and the St. Andrew Complex (P31/P31P). See **Figure 4-30** in Section 4. The Cap San Blas Unit includes most of St. Joseph Peninsula, St. Joseph Bay, and the mainland coastal areas from south of Cape San Blas Road north along the coastline to just south of St. Joe Beach. The St. Andrew Complex encompasses the St. Andrews State Recreation Area from Grand Lagoon eastward to the City of Mexico Beach. It also includes the Tyndall AFB shoreline from north of Davis Point eastward to the City of Mexico Beach.

3.6.5 Floodplains

The applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps^{29,30, & 31} (FIRM) and Flood Insurance Studies (FIS)^{32 & 33} for the study area are listed respectively in **Tables 3-26** and **3-27** and shown on **Figure 3-22**. These maps and the Bay and Gulf County FIS indicate that the project study area has numerous FEMA mapped floodplains. The floodplains in close proximity to East Bay are storm surge related and have a base flood elevation of 8.0 ft (North American Vertical Datum {NAVD} 88). Inland the floodplains are a mix of Zones AE and A.

Zone A has no base flood elevation determined whereas Zone AE does.

Parts of Bayou George Creek and Callaway Creek are designated FEMA floodways. Although some of the proposed alignments are near Bayou George Creek, they never cross it. A small portion of the project crosses a Callaway Creek floodway.

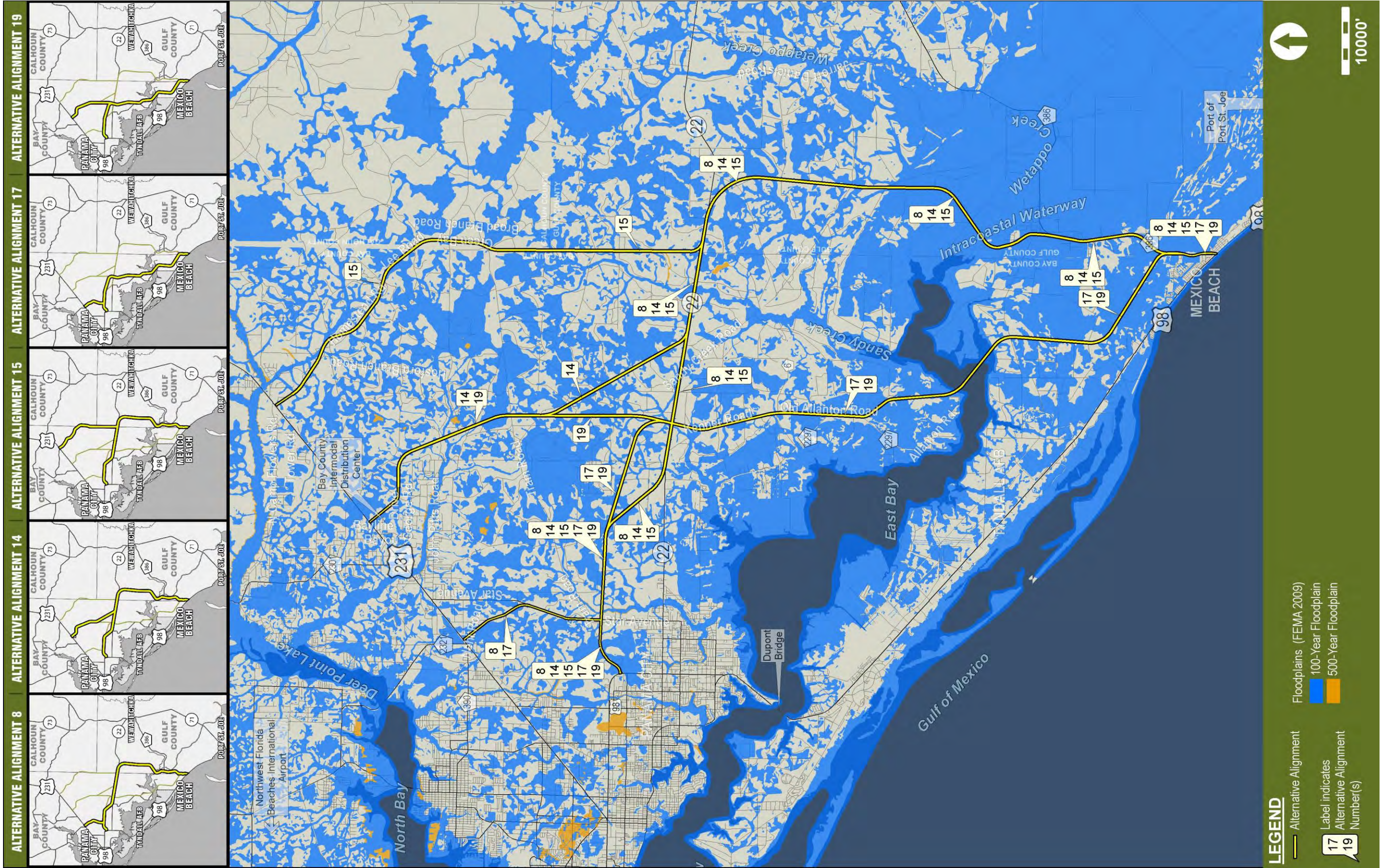
Table 3-26: FEMA FIRMs within the Study Area

FEMA Flood Map Panels	Date	FEMA Flood Map Panels	Date
12045C0230F	9/28/07	12005C0366H	6/2/09
12005C0509H	6/2/09	12005C0362H	6/2/09
12045C0210F	9/28/07	12005C0358H	6/2/09
12005C0510H	6/2/09	12005C0359H	6/2/09
12005C0469H	6/2/09	12005C0361H	6/2/09
12005C0468H	6/2/09	12005C0380H	6/2/09
120045C0140F	9/28/07	12005C0357H	6/2/09
12005C0462H	6/2/09	12005C0356H	6/2/09
12005C0452H	6/2/09	12005C0352H	6/2/09
12005C0454H	6/2/09	12005C0376H	6/2/09
12005C0460H	6/2/09	12005C0244H	6/2/09
12045C0110F	9/28/07	12005C0243H	6/2/09
12045C0130F	9/28/07	12005C0265H	6/2/09
12005C0451H	6/2/09	12005C0261H	6/2/09
12005C0432H	6/2/09	1200040145D	2009
12005C0431H	6/2/09	1200040260D	2009
12005C0427H	6/2/09	1200040275D	2009
12045C0040F	9/28/07	1200040400D	2009
12045C0020F	9/28/07	1200980050B	2009
12005C0395H	6/2/09	12013C0100C	2009
12005C0390H	6/2/09	12013C0110C	2009
12005C0370H	6/2/09	12013C0125C	2009
12005C0368H	6/2/09	12013C0150C	2009
12005C0364H	6/2/09	12013C0175C	2009

Table 3-27: FEMA FIS within the Study Area

County	Study	Date
Bay	12005CV000B	6/22/09
Gulf	12045CV000B	9/28/07

Figure 3-22: Floodplains in the Gulf Coast Parkway Project Area



3.6.6 Wetlands

Twenty (20) types of wetland communities were identified within the proposed project area (see **Table 3-28**). Approximately half of these systems are palustrine. Other wetland cover types within the project area include fresh, brackish, and salt marsh systems. Wetlands in the study area have been characterized using the *Florida Land Use, Cover, and Forms Classification System*³⁴ (FLUCFCS).

Wetlands associated with the study area were largely grouped into two primary community types: hydric pine plantation (FLUCFCS Code 441W) and mixed forested wetland (630). The most abundant wetland community type encountered was hydric pine plantations, comprising approximately 60% of the wetlands encountered, which were characterized by slash pine (*Pinus elliottii*) overstories and midstories of myrtle-leaved holly (*Ilex myrtifolia*), wax myrtle (*Myrica cerifera*), swamp titi (*Cyrilla racemiflora*), black titi (*Cliftonia monophylla*), and gallberry (*Ilex glabra*). The mixed forested wetland community comprised approximately 23% of the wetlands encountered and had a mixed overstory comprised of varying amounts of red maple (*Acer rubrum*), pond cypress, (*Taxodium ascendens*) sweetgum (*Liquidambar styraciflua*), slash pine, sweetbay (*Magnolia virginiana*), and blackgum (*Nyssa biflora*), and midstories typically consisting of sweet gallberry (*Ilex coriacea*), titi, gallberry, and wax myrtle. During the desktop analysis, many of the smaller streams were included within the mixed forested wetland (630) community type due to their size and riparian area composition and structure. FLUCFCS type 510 (Streams and Waterways) was generally used for named stream crossings or where open water was visible on the 2007 high resolution aerals.

Titi swamp (614) and cypress (621) wetlands were also encountered, 0.45% and 1.5% of wetlands respectively. Titi swamps were nearly completely dominated by swamp and black titi with sweet gallberry common in the midstory. Very few of the wetlands encountered were exclusively comprised of titi, but generally had a mixture of titi, slash pine, and various hardwoods associated with the system. Certain wetland systems may have had titi as a dominant understory species but were classified as mixed forested wetland (630) since there was generally an associated canopy comprised of mixed hardwood species. Cypress wetlands were characterized by pond cypress, myrtle-leaved holly and St. Johns wort (*Hypericum* spp.). Emergent tidal marsh is primarily associated with tidal streams and certain areas of East Bay and the connecting estuarine systems within the project area. Upland ecotones leading to these tidal systems are often affected by fire suppression and the overgrowth of shrub/scrub species. Depending on the specific waterbody and location, the emergent marsh systems are of relatively higher quality. More details in relation to potential emergent marsh impacts and observed quality are described in the Essential Fish Habitat (EFH) Assessment associated with this study.

The study area also contained areas of scrubby flatwoods and sandhill communities interspersed with wet flatwoods, titi drains, basin swamps, and cypress wetlands among other habitat types. Fire suppression in these areas is also common. These upland areas are often utilized by hunting clubs that plant and maintain small (typically < 1 acre) and widely distributed wildlife food plots. Further details regarding the wetlands and EFH environment in the study area are discussed in the *Gulf Coast Parkway Wetlands Evaluation Report* and the *Gulf Coast Parkway Essential Fish Habitat Report*.

Table 3-28: Wetland Systems (FLUCFCS) within the Gulf Coast Parkway Study Area

FLUCFCS Designation	National Wetlands Inventory (NWI) Designation	Wetland Type	Community Description
210W	PEM2	Hydric Cropland and Pastureland	Cropland and Pastureland that may have been drained or converted wetlands.
441W	PFO	Hydric Pine Plantation	Planted pine plantation in wetlands.
443W	PFO	Forest Regeneration Areas	Areas in which it is clearly evident the harvested stands will be reforested through various silvicultural practices that do not involve direct planting of trees. The “w” designation denotes these forest regeneration areas are wetlands.
510	R2UB	Streams and Waterways	This category includes rivers, creeks, canals and other linear waterbodies. The boundary between streams and lakes, reservoirs or the ocean is the straight line across the mouth of the stream unless the mouth is more than 1 mile wide.
510D	N/A or same as class it occurs within with “d” modifier	Ditch	Man-made ditches primarily for drainage purposes associated with roads.
524	POWH	Lakes	Lakes less than 10 acres which are dominant features
530	L1UB or L2UB	Reservoirs	Man-made water impoundment areas, excluding stormwater ponds.
541	E1/2	Embayments	Embayments are bays or estuaries that open directly to the Gulf of Mexico or the Atlantic Ocean.
614	PFO6	Titi Swamps	This community is almost exclusively made up of black titi, or swamp titi. Other species found include sweetbay, cypress, tupelos and a variety of wetland hardwoods.
620	PFO	Wetland Coniferous Forests	Wetland Coniferous Forests are wetlands which meet the crown closure requirements for coniferous forests and are the result of natural generation. These communities are commonly found in the interior wetlands in such as places as river flood plains, bogs, bayheads and sloughs.
621	PFO2	Cypress	This community is composed of pond cypress or bald cypress which is either pure or dominant. In the case of pond cypress, common associates are swamp tupelo, slash pine and black titi. In the case of bald cypress, common associates are water tupelo, red maple, American elm (<i>Ulmus americana</i>), overcup oak (<i>Quercus lyrata</i>) and water hickory (<i>Carya aquatica</i>). Bald cypress may be associated with laurel oak, sweetgum and sweetbay on less moist sites.
626	PFO4/PEM1	Hydric Pine Savannah	This community is an open forest with a sparse canopy of longleaf and/or slash pines with a ground cover of grasses, forbs, and wetland shrubs.
630	PFO	Wetland Forested Mixed	This category includes mixed wetlands forest communities in which neither hardwoods nor conifers achieve a 66% dominance of the crown canopy composition.
640	PEM1	Vegetated Non-forested Wetland	Include marshes and seasonably flooded basins and meadows. These communities are usually confined to relatively level, low-lying areas. This category does not include areas which have a tree cover which meets the crown closure threshold for the forested categories. Sawgrass and cattail (<i>Typha</i> spp.) are the predominant species in freshwater marshes while cordgrass and needlerush are the predominant species in the saltwater marsh communities.

FLUCFCS Designation	National Wetlands Inventory (NWI) Designation	Wetland Type	Community Description
641	PEM1	Freshwater Marsh	The communities included in this category are characterized by having one or more of the following species predominate: sawgrass, cattail, arrowhead (<i>Sagittaria</i> sp), maidencane, buttonbush, cordgrass, giant cutgrass (<i>Zizaniopsis miliacea</i>), switchgrass, bulrush (<i>Scirpus americanus</i> , <i>Scirpus validus</i> , <i>Scirpus robustus</i>), needlerush, common reed (<i>Phragmites communis</i> , <i>Phragmites australis</i>), and arrowroot (<i>Thalia dealbata</i> , <i>Thalia geniculata</i>).
642	EEM	Saltwater Marsh	This community is a coastal saltwater marsh that is characterized by having one or more of the following species predominate: saltwort (<i>Batis maritima</i>), glasswort (<i>Salicornia</i> spp.), fringe rush (<i>Fimbristylis</i> spp.), salt dropseed (<i>Sporobolus virginicus</i>), seaside daisy (<i>Borrichia frutescens</i>), black needle rush, and salt jointgrass (<i>Paspalum vaginatum</i>).
814W	PEM1	Hydric Road	Roadway/unimproved trail that is not paved and traversed through wetlands. Certain lengths of the roadway are considered jurisdictional wetlands.
817W	PEM1	Oil, Water, or Gas Long Distance Transmission Lines	Utility long distance transmission facilities through wetland systems that are typically maintained and commonly support heighten diversity of plant species due to overstory competition reduction.
832W	PEM1	Hydric Powerlines	Powerline facilities through wetland systems that are typically maintained and commonly support height diversity of plant species due to overstory competition reduction.

3.6.7 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (16 United States Code (USC) 1801 et seq. Public Law 104-208) reflects the Secretary of Commerce and Fishery Management Council's authority and responsibilities for the protection of essential fishery habitat. The Act specifies that each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH identified under this Act. EFH is defined by the Act as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The National Marine Fisheries Service (NMFS) reviews potential impacts to EFH.

The Gulf Coast Parkway Project is within the Gulf of Mexico Fishery Management Council's (GMFMC) area of jurisdiction, which extends from the Texas/Mexico border to the Florida Keys and seaward to the limit of the Exclusive Economic Zone (200 nautical miles from the baseline of the territorial sea). The GMFMC separates EFH into estuarine and marine components. For the estuarine component, EFH is defined as all estuarine waters and substrates (mud, sand, shell, rock and associated biological communities), including the sub-tidal vegetation (seagrasses and algae) and adjacent inter-tidal vegetation (marshes and mangroves). In marine waters of the Gulf of Mexico, EFH is defined as all marine waters and substrates (mud, sand, shell, rock, hardbottom, and associated biological communities) from the shoreline to the seaward limit of the Exclusive Economic Zone (200 nautical miles from the baseline of the territorial sea), which extends from the Texas/Mexico border to the Florida Keys.

East Bay and Wetappo Creek within the study area contain EFH (see **Figures 4-23** and **4-24** for project involvement). The EFH that exists within the study area includes, but is not limited to: emergent vegetation, submerged aquatic vegetation, the water column, unconsolidated marine benthic sediments, shell, and woody debris substrates. The most commonly encountered EFH associated with the study area is primarily emergent vegetation.

3.6.7.1 Habitat Areas of Particular Concern

Habitat Areas of Particular Concern (HAPC) are defined as specific subsets of EFH that provide extremely important ecological functions or are especially vulnerable to degradation. Councils may designate a specific habitat area as an HAPC based on one or more of the following reasons: importance of the ecological function provided by the habitat, extent to which the habitat is sensitive to human-induced environmental degradation, whether, and to what extent, development activities are, or will be, stressing the habitat type and rarity of the habitat type (NMFS, 2007). There are no HAPCs within or adjacent to the project site.

3.6.7.2 Managed Fisheries and Associated Species

The Magnuson-Stevens Act required that each Fishery Management Council amend their existing Fishery Management Plans (FMPs) to identify and describe EFH for each species under management. The GMFMC has identified and described EFH for 55 representative managed species and the coral complex. The project area has been reviewed to determine if EFH for the managed species are present. Although not managed by the GMFMC, certain highly migratory species also have NMFS-designated EFH requirements and occur within the Gulf of Mexico.

The project area has been reviewed to determine if EFH for these managed species are present. All possible EFH and the highly migratory species included in the GMFMC's jurisdiction are included in **Table 3-29**, along with an assessment of potential for each to occur within the project area.

Nineteen (19) of the representative managed species and 13 highly migratory species have a potential for occurrence in the project area (meaning they have a potential occurrence ranking of "low", "medium", or "high"). The potential occurrence determination has been made because: 1) these species utilize the EFH found within the study area, i.e., estuarine waters, at some stage in their life cycles, and 2) corresponding EFH identified and described in species management plans is found within the study area. Species were not included in the analyses if required habitat conditions were absent within the study area.

Table 3-29: Managed Fish Species Potential to Occur within the Gulf Coast Parkway Study Area

Fish	Species	Potential Occurrence in Project Area ³	Comments
Shrimp ¹	Brown shrimp (<i>Farfantepenaeus aztecus</i>)	Medium	Found in estuarine areas. EFH for the Shrimp FMP is found in project area.
	Pink shrimp (<i>F. duorarum</i>)	Medium	Found in estuarine areas. EFH for the Shrimp FMP is found in project area.
	Royal red shrimp (<i>Pleoticus robustus</i>)	None	An off-shore/deep-water species (180 – 730 meters).
	White shrimp (<i>Litopenaeus setiferus</i>)	Medium	Found in estuarine areas. EFH for the Shrimp FMP is found in project area.
Red Drum ¹	Red drum (<i>Sciaenops ocellatus</i>)	Medium	Found in estuarine areas. EFH for the Red Drum FMP is found in project area.
Reef Fish ¹	Almaco jack (<i>Seriola rivoliana</i>)	None	Found in near and off shore waters.
	Anchor tilefish (<i>Caulolatilus intermedius</i>)	None	Found in off shore waters.
	Banded rubberfish (<i>S. zonata</i>)	None	Found in near and off shore waters. Not common in the central part of the Gulf of Mexico.
	Blackfin snapper (<i>Lutjanus buccanella</i>)	None	Found in near and off shore waters.
	Blackfin tilefish (<i>C. cyanops</i>)	None	Found in off shore waters.
	Black grouper (<i>Mycteroperca bonaci</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Blueline tilefish (<i>C. microps</i>)	None	Found in off shore waters.
	Cubera snapper (<i>L. cyanopterus</i>)	Low	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. Not common in Gulf of Mexico. EFH for the Reef Fish FMP is found in project area.
	Dog snapper (<i>L. jact</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Dwarf sand perch (<i>Diplectrum bivittatum</i>)	None	Found in near and off shore waters.
	Gag grouper (<i>M. microlepis</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Goldface tilefish (<i>C. chrysops</i>)	None	Found in off shore waters.
	Goliath grouper (<i>Epinephelus itajara</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Gray snapper (<i>L. griseus</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Gray triggerfish (<i>Balistes caprisus</i>)	None	Found in near and off shore waters.
	Greater amberjack (<i>S. dumerilii</i>)	None	Found in near and off shore waters.
	Hogfish (<i>Lachnolaimus maximus</i>)	Medium	Found in near shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Lane snapper (<i>L. synagris</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Lesser amberjack (<i>S. fasciata</i>)	None	Found in off shore waters.
	Mahogany snapper (<i>L. mahogoni</i>)	None	Found in near shore waters.
	Marbled grouper (<i>E. inermis</i>)	None	Found in near and off shore waters.
	Misty grouper (<i>E. mystacinus</i>)	None	Found in off shore waters.
	Mutton snapper (<i>L. analis</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.

Fish	Species	Potential Occurrence in Project Area ³	Comments
Reef Fish ¹ (Cont.)	Nassau grouper (<i>E. striatus</i>)	None	Found in near and off shore waters in the Keys.
	Queen snapper (<i>Etelis oculatus</i>)	None	Found in off shore waters.
	Red hind (<i>Epinephelus guttatus</i>)	None	Found in near and off shore waters.
	Red grouper (<i>E. morio</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Red snapper (<i>L. campechanus</i>)	None	Found in near and off shore waters.
	Rock hind (<i>E. adscensionis</i>)	None	Found in near and off shore waters.
	Sand perch (<i>Diplectrum formosum</i>)	None	Found in near shore waters.
	Scamp grouper (<i>M. phenax</i>)	None	Found in near and off shore waters.
	Schoolmaster (<i>L. apodus</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Silk snapper (<i>L. vivanus</i>)	None	Found in off shore waters.
	Snowy grouper (<i>E. niveatus</i>)	None	Found in near and off shore waters.
	Speckled hind (<i>E. drummondhayi</i>)	None	Found in off shore waters.
	Tilefish (<i>Lopholatilus chamaeleonticeps</i>)	None	Found in off shore waters.
	Vermillion snapper (<i>Rhomboplites aurorubens</i>)	None	Found in near and off shore waters.
	Warsaw grouper (<i>E. nigrilus</i>)	None	Found in near and off shore waters.
	Wenchman (<i>Pristipomoides aquilonaris</i>)	None	Found in off shore waters.
	Yellowedge grouper (<i>E. flavolimbatus</i>)	None	Found in off shore waters.
	Yellowfin grouper (<i>M. venenosa</i>)	Low	Found in near and off shore waters in the southern Gulf of Mexico; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Yellowmouth grouper (<i>M. interstitialis</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
	Yellowtail snapper (<i>Ogurus chrysurus</i>)	Medium	Found in near and off shore waters; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Reef Fish FMP is found in project area.
Stone Crab ¹	Florida stone crab (<i>Menippe mercenaria</i>)	None	Found in South Florida waters.
	Gulf stone crab (<i>M. adina</i>)	Medium	Found in estuarine and near shore waters. EFH for the Stone Crab FMP is found in project area.
Spiny Lobster ¹	Spiny lobster (<i>Panulirus argus</i>)	None	Found in South Florida waters. No habitat or EFH within project area.
	Slipper lobster (<i>Scyllarides nodifé</i>)	None	Found in South Florida waters. No habitat or EFH within project area.
Coral and Coral Reef ¹	Varied coral species and coral reef communities comprised of several hundred species	None	No habitat or EFH within project area.
Coastal Migratory Pelagic ¹	Cobia (<i>Rachycentron canadum</i>)	None	A near and off-shore species.
	King mackerel (<i>Scomberomorus cavalla</i>)	None	A near and off-shore species.
	Spanish mackerel (<i>S. maculatus</i>)	Medium	A near shore species; juveniles and adults may inhabit estuarine areas but are not estuarine-dependent. EFH for the Coastal Migratory Pelagics FMP is found in project area.
Highly Migratory Species - Tuna ²	Albacore (<i>Thunnus alalunga</i>)	None	Found in off shore waters.
	Atlantic bigeye (<i>T. Obesus</i>)	None	Found in off shore waters. Rare in Gulf of Mexico.
	Atlantic bluefin (<i>T. thynnus</i>)	None	Found in off shore waters.

Fish	Species	Potential Occurrence in Project Area ³	Comments
Highly Migratory Species - Tuna ² Cont.	Atlantic yellowfin (<i>T. albacares</i>)	None	Found in off shore waters.
	Skipjack (<i>Katsuwonus pelamis</i>)	None	Found in off shore waters.
Highly Migratory Species - Swordfish ²	Swordfish (<i>Xipbias gladius</i>)	None	Found in off shore waters.
Highly Migratory Species - Billfish ²	Blue marlin (<i>Makaira nigricans</i>)	None	Found in off shore waters.
	Sailfish (<i>Istiophorus platypterus</i>)	None	Found in off shore waters.
	White marlin (<i>T. albidus</i>)	None	Found in off shore waters.
	Longbill spearfish (<i>Tetrapturus pfluegeri</i>)	None	Found in off shore waters.
Highly Migratory Species - Large Coastal Sharks ²	Basking shark (<i>Cetorhinus maximus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Great hammerhead shark (<i>Sphyrna mokarran</i>)	Low	Found in shallow coastal waters and estuaries. EFH identified for adults is just east of the project.
	Scalloped hammerhead shark (<i>S. lewini</i>)	Medium	Found in shallow coastal waters.EFH for neonates, includes shallow coastal bays/estuaries less than 5 m deep from Apalachee Bay to St. Andrews Bay. Designated EFH includes West Bay.
	Smooth hammerhead shark (<i>S. zygaena</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	White shark (<i>Carcharodon carcharias</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Nurse shark (<i>Ginglymostoma cirratum</i>)	None	Found in shallow coastal waters.
	Bignose shark (<i>Carcharhinus altimus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Blacktip shark (<i>C. limbatus</i>)	None	Found in shallow coastal waters. EFH for neonates and juveniles identified in vicinity of project.
	Bull shark (<i>C. leucas</i>)	Medium	Found in shallow coastal waters and estuaries, and often enters fresh water. EFH for juveniles identified in the project area.
	Caribbean reef shark (<i>C. perezi</i>)	None	Found in coastal water of South Florida and the Caribbean.
	Dusky shark (<i>C. obscurus</i>)	None	Found in near and off shore waters, primarily in the Atlantic.
	Galapagos shark (<i>C. galapagensis</i>)	None	Found in off shore waters.
	Lemon shark (<i>Negaprion brevirostris</i>)	None	Found in shallow coastal waters and estuaries. Primarily found in Peninsular Florida and the Keys.
	Narrowtooth shark (<i>C. brachyurus</i>)	None	Found in off shore waters.
	Night shark (<i>C. signatus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
Highly Migratory Species - Small Coastal Sharks ²	Sandbar shark (<i>C. plumbeus</i>)	Low	Found in shallow coastal waters. EFH identified for neonates, juveniles, and adults is just east of the project.
	Silky shark (<i>C. falciformis</i>)	None	Found in off shore waters.
	Spinner shark (<i>C. brevipinna</i>)	Low	Found in shallow coastal waters. EFH for neonates includes shallow coastal bays and estuaries less than 5 m deep from Apalachee Bay to St. Andrews Bay.
	Tiger shark (<i>Galeocerdo cuvieri</i>)	Low	Found in shallow coastal and off shore waters. EFH identified in vicinity of project.
	Bigeye sand tiger shark (<i>Odontaspis noronhai</i>)	None	Found in off shore waters.
	Sand tiger shark (<i>O. taurus</i>)	None	Found in shallow coastal waters. Primarily found in the Atlantic.
	Whale shark (<i>Rhinocodon typus</i>)	None	Found in off shore waters.
	Atlantic angel shark (<i>Squatina dumerili</i>)	None	Found in shallow coastal waters.
	Bonnethead shark (<i>Sphyrna tiburo</i>)	Low	Found in shallow coastal waters, inlets, and estuaries of peninsular Florida and Texas.
	Atlantic sharpnose shark (<i>Rhizoprionodon terraenovae</i>)	Low	Found in shallow coastal waters including bays and estuaries. EFH for neonates includes shallow coastal bays and estuaries less than 5 m deep from Apalachee Bay to St. Andrews Bay.

Fish	Species	Potential Occurrence in Project Area ³	Comments
Highly Migratory Species - Small Coastal Sharks ² Cont.	Blacknose shark (<i>C. acronotus</i>)	Low	Found in shallow coastal waters. EFH for juveniles includes shallow coastal bays and estuaries less than 5 m deep with expanses of seagrasses from Apalachee Bay to St. Andrews Bay.
	Caribbean sharpnose shark (<i>R. porosus</i>)	Low	Found in off shore waters. Primarily found in the Atlantic.
	Finetooth shark (<i>C. isodon</i>)	Low	Found in shallow coastal waters. EFH for neonates, juveniles, and adults, includes waters less than 5 m deep on the seaward side of coastal islands from Apalachee Bay to St. Andrews Bay.
	Smalltail shark (<i>C. porosus</i>)	Low	Found in shallow coastal waters and estuaries.
Highly Migratory Species - Pelagic Sharks ²	Bigeye sixgill shark (<i>Hexanchus vitulus</i>)	None	Found in off shore waters.
	Sevengill shark (<i>Heptranchias perlo</i>)	None	Found in off shore waters.
	Sixgill shark (<i>H. griseus</i>)	None	Found in off shore waters.
	Longfin mako shark (<i>Isurus paucus</i>)	None	Found in off shore waters.
	Porbeagle shark (<i>Lamna nasus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Shortfin mako shark (<i>I. oxyrinchus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Blue shark (<i>Prionace glauca</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Oceanic whitetip shark (<i>C. longimanu</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Bigeye thresher shark (<i>Alopias superciliosus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.
	Common thresher shark (<i>A. vulpinus</i>)	None	Found in off shore waters. Primarily found in the Atlantic.

Notes:

1. Fishery Management Plans and Managed Species for the Gulf of Mexico. Appendix 2, EFH: A Marine Fish Habitat Conservation Mandate for Federal Agencies. Gulf of Mexico Region. NMFS, Habitat Conservation Division, Southeast Regional Office. Revised 08/2008/
2. Species Managed in the Gulf of Mexico under Federally Implemented Fishery Management Plans. Appendix 3, EFH: A Marine Fish Habitat Conservation Mandate for Federal Agencies. Gulf of Mexico Region. NMFS, Habitat Conservation Division, Southeast Regional Office. Revised 08/2008/
3. Ratings are low, medium, and high. Ratings based on presence of suitable habitat as follows:
Low – suitable habitat present in Project Area.
Medium – suitable habitat present in Project Area and EFH for managed species is present near Project Area.
High – suitable habitat present in Project Area and EFH for managed species is present within Project Area.

Sources:

NMFS. 2006. Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan. National Oceanic and Atmospheric Administration, NMFS, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD. Public Document. pp. 1600.

GMFMC. 2004. Final Environmental Impact Statement for the Generic EFH Amendment to the Fishery Management Plans of the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, Red Drum Fishery of the Gulf of Mexico, Reef Fish Fishery of the Gulf of Mexico, Stone Crab Fishery of the Gulf of Mexico, Coral and Coral Reef Fishery of the Gulf of Mexico, Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic, Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic. GMFMC, Tampa, FL.

3.6.8 Wildlife and Habitat

The determination of wildlife occurrence and potential utilization of the project area was initially desktop-based, and then supported by field survey analysis, applying information obtained from the FFWCC and Florida Natural Areas Inventory (FNAI)³⁴ as described in the *Endangered Species Biological Assessment Report(ESBAR)*³⁶ prepared for this project.

Project alternative alignments were evaluated for the potential occurrence of federal and state listed (threatened and endangered) species. Literature reviews were conducted and data collected from the United States Fish and Wildlife Service (USFWS), the NMFS, the FFWCC, the Florida Marine Research Institute (FMRI), and the FNAI.

Information sources and databases utilized include the following:

- USFWS Species List for Bay, Gulf, and Calhoun Counties
- FNAI Element Occurrence Data (publically available)
- FNAI element occurrence report was requested on September 24, 2007 and received on October 2, 2007 and October 15, 2007 (can be made available upon request).
- FNAI-The Nature Conservancy (TNC) 2001 (FNAI- TNC Report 2001). Rare Plant Conservation through Private Action: Final Report to USFWS (agreement 1448-40181-98-J-016).
- FFWCC Eagle Locator
- FFWCC Water Bird Colony Data
- USDA, NRCS, Soil Survey Geographic (SSURGO) database for Bay County, Florida, 2006 <http://SoilDataMart.nrcs.usda.gov/>
- USDA, NRCS, SSURGO database for Gulf County, Florida, 2006 <http://SoilDataMart.nrcs.usda.gov/>
- USDA, NRCS, SSURGO database for Calhoun County, Florida, 2006 <http://SoilDataMart.nrcs.usda.gov/>
- USFWS NWI Database
- USFWS Classification of Wetlands and Deepwater Habitats of the United States (1979)
- NFWFMD, FLUCFCS data (1995)
- Aerial photographs of the project area from 1953, 2004, and 2007
- United States Geological Survey (USGS) Topographic Quadrangle maps, 7.5 minute series
- Florid Department of Transportation (FDOT), FLUCFCS, Level III, third ed., 1999.

Wildlife occurrence and potential utilization analysis of the project area was primarily desktop-based, applying information obtained from the FFWCC and FNAI. The following data sets were obtained from the FFWCC and reviewed:

- *Florida Vegetation and land cover March 2004*
- *Integrated Wildlife Habitat Ranking System 2007*

- *Selected wildlife conservation GIS data layers June 2007*
- *Wildlife conservation projects – GIS data layers July 2007*
- *Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas August 2007.*

The USFWS documents 122 listed species (57 animals and 65 plants) potentially occurring in Bay, Gulf, and Calhoun Counties (**Table 3-30**). This species list is expansive and represents a “first approximation” of species that could be potentially involved with the Build Alignments. For example, the USFWS maintains a county list of species that are classified as threatened, endangered, and/or “other species of concern”. Species in this final category are typically designated as “consideration encouraged”. Based on discussions with USFWS and FFWCC, it was determined that species designated as “consideration encouraged” should be reviewed during initial project planning. In addition, it should be noted that several species listed for Calhoun County may not have direct involvement with Alternative Alignments, since only a relatively short section of Alternative Alignment 15 crosses into Calhoun County. Therefore, species such as listed mussels may be located in watersheds that are not directly or indirectly affected by Alternatives. Brief descriptions of the species can be found in the *ESBAR*.

An initial desktop habitat evaluation of the study area was conducted based on interpretation of both historical and recent aerial photographs provided by FDEP Land Boundary Information System (Labins) 2004 Digital Ortho Quarter Quads (DOQQ) Aerial Photography (2004 Color State Plane). Proposed project corridors and alternative alignments were overlaid on aerial photos to identify potential involvement with listed species identified in **Table 3-30**. This general desktop analysis, project staff knowledge of the area, and results of preliminary field reconnaissance, formed the rationale and basis for subsequent field surveys conducted within and in the vicinity of the alternatives. When appropriate, specific survey protocols were utilized. Field survey results are discussed in Section 4 of this report.

As described above, a potential pool of 122 listed species are identified (**Table 3-30**). Of the 57 wildlife species, 21 are federally-listed (endangered or threatened), one is a federal candidate species (red knot), one is protected by other federal acts (bald eagle), 23 are state listed (endangered, threatened, or species of special concern), and 11 have a “consideration encouraged” designation. Of the 65 plant species included in **Table 3-30**, eight are federally-listed, 52 are state listed, and five are identified as “consideration encouraged”.

Table 3-30: Protected Species Potentially Occurring in Counties of the Gulf Coast Parkway Study Area

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	COUNTY OCCURRENCE
<u>FISH</u>				
<i>Acipenser oxyrinchus desotoi</i>	Gulf sturgeon	T CH	SSC	Bay, Gulf, Calhoun
<i>Cyprinella callitaenia</i>	Bluestripe shiner		CE	Bay, Gulf
<i>Micropterus sp.</i>	Shoal bass		SSC	Bay
<i>Pteronotropsis welaka</i>	Bluenose shiner		SSC	Bay, Gulf
<u>AMPHIBIANS and REPTILES</u>				
<i>Alligator mississippiensis</i>	American alligator	T SA	SSC	Bay, Gulf, Calhoun
<i>Ambystoma bishopi</i>	Reticulated flatwoods salamander	T	SSC	Bay, Gulf, Calhoun
<i>Caretta caretta</i>	Loggerhead	T	T	Bay, Gulf
<i>Chelonia mydas</i>	Green sea turtle	E	E	Bay, Gulf
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	E	Bay, Gulf
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T	Bay, Gulf, Calhoun
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	E	E	Bay, Gulf
<i>Eumeces anthracinus</i>	Coal skink		CE	Gulf, Calhoun
<i>Gopherus polyphemus</i>	Gopher tortoise	CE	SSC	Bay, Gulf, Calhoun
<i>Graptemys barbouri</i>	Barbour's map turtle	CE	SSC	Gulf, Calhoun
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	E	E	Bay, Gulf
<i>Macrochelys temminckii</i>	Alligator snapping turtle	CE	SSC	Bay, Gulf, Calhoun
<i>Nerodia clarkii clarkii</i>	Gulf saltmarsh snake		CE	Bay, Gulf
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	CE	SSC	Bay, Gulf, Calhoun
<i>Pseudemys concinna suwanniensis</i>	Suwannee cooter		SSC	Gulf, Calhoun
<i>Rana capito</i>	Gopher frog	CE	SSC	Bay, Gulf, Calhoun
<u>BIRDS</u>				
<i>Aimophila aestivalis</i>	Bachman's sparrow		CE	Bay, Gulf
<i>Aramus guarana</i>	Limpkin		SSC	Gulf, Calhoun
<i>Calidris canutus</i>	Red knot	C		Bay, Gulf
<i>Charadrius alexandrinus tenuirostris</i>	Southeastern snowy plover	CE	T	Bay, Gulf
<i>Charadrius melodus</i>	Piping plover	T, CH	T	Bay, Gulf
<i>Cistothorus palustris marianae</i>	Marian's marsh wren		SSC	Bay
<i>Dendroica dominica stoddardi</i>	Stoddard's yellow-throated warbler	CE		Bay
<i>Egretta caerulea</i>	Little blue heron		SSC	Bay, Gulf, Calhoun
<i>Egretta thula</i>	Snowy egret		SSC	Gulf
<i>Egretta tricolor</i>	Tricolored heron		SSC	Bay, Gulf, Calhoun
<i>Falco peregrinus tundrus</i>	Artic peregrine falcon	CE	E	Bay, Gulf, Calhoun
<i>Falco sparverius paulus</i>	Southeastern American kestrel	CE	T	Bay, Gulf, Calhoun
<i>Grus canadensis pratensis</i>	Florida sandhill crane		T	Gulf
<i>Haematopus palliatus</i>	American oystercatcher		SSC	Gulf
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGEPA, MPTA		Bay, Gulf, Calhoun
<i>Mycteria americana</i>	Wood stork	E	E	Bay, Gulf, Calhoun
<i>Pelecanus occidentalis</i>	Brown pelican		SSC	Bay, Gulf
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	SSC	Bay, Gulf, Calhoun
<i>Rynchops niger</i>	Black skimmer		SSC	Bay, Gulf, Calhoun
<i>Sterna antillarum</i>	Least tern		T	Bay, Gulf

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	COUNTY OCCURRENCE
<u>MAMMALS</u>				
<i>Peromyscus polionotus allophrys</i>	Choctawhatchee beach mouse	E, CH	E	Bay
<i>Peromyscus polionotus peninsularis</i>	St. Andrew beach mouse	E, CH	E	Bay, Gulf
<i>Plecotus rafinesquii</i>	Southeastern big-eared bat		CE	Gulf, Calhoun
<i>Trichechus manatus latirostris</i>	West Indian manatee	E	E	Bay, Gulf
<i>Ursus americanus floridanus</i>	Florida black bear	CE	T	Bay, Gulf, Calhoun
<u>INVERTEBRATES</u>				
<i>Alasmidonta triangulata</i>	Southern elktoe (mussel)	CE		Calhoun
<i>Amblema neislerii</i>	Fat threeridge	E	CE	Bay, Calhoun
<i>Anodonta beardi</i>	Apalachicola floater	CE		Calhoun
<i>Anodontoides radiates</i>	Rayed creekshell	CE		Gulf, Calhoun
<i>Elliptio chipolaensis</i>	Chipola slabshell	T, CH		Gulf, Calhoun
<i>Elliptiodens sloatianus</i>	Purple bankclimber	T, CH		Gulf, Calhoun
<i>Hamiota subangulata</i>	Shinyrayed pocketbook	E, CH		Gulf, Calhoun
<i>Medionidus penicillatus</i>	Gulf moccasins shell	E, CH		Bay, Gulf, Calhoun
<i>Pleurobema pyriforme</i>	Oval pigtoe	E, CH		Bay, Gulf, Calhoun
<i>Procambarus econfinae</i>	Panama City crayfish	CE	SSC	Bay
<i>Quadrula infucata</i>	Sculptured pigtoe	CE		Gulf, Calhoun
<i>Villosa villosa</i>	Downy rainbow	CE		Bay, Gulf, Calhoun
<u>PLANTS</u>				
<i>Arnoglossum album</i>	White Indian plantain	CE	E	Bay, Gulf
<i>Asclepias viridula</i>	Southern milkweed	CE	T	Bay, Gulf
<i>Baptisia megacarpa</i>	Apalachicola wild indigo		E	Bay, Calhoun
<i>Boltonia apalachicolensis</i>	Apalachicola dolls daisy	CE		Gulf
<i>Bumelia thornei</i>	Buckthorn	CE	E	Gulf
<i>Bumelia lycioides</i>	Buckthorn	CE	E	Calhoun
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	CE	T	Bay
<i>Calycanthus floridus</i>	Sweet-shrub		E	Bay
<i>Carex baltzellii</i>	Baltzell's sedge	CE	T	Bay, Calhoun
<i>Chrysopsis gossypina ssp. Cruiseana</i>	Cruise's goldenaster	CE	E	Bay
<i>Cleistes divaricata</i>	Rosebud orchid or spreading pagonia		T	Bay
<i>Cornus alterniflora</i>	Alternate-leaf or pagoda dogwood		E	Bay, Calhoun
<i>Cuphea aspera</i>	Tropical waxweed	CE		Gulf, Calhoun
<i>Drosera filiformis</i>	Dew-thread		E	Bay
<i>Drosera intermedia</i>	Spoon-leaved sundew		T	Bay, Gulf, Calhoun
<i>Eriocaulon nigrobracteatum</i>	Dark-headed hatpin	CE		Bay, Gulf, Calhoun
<i>Euphorbia telephoides</i>	Telephus spurge	T	E	Bay, Gulf
<i>Eurybia spinulosus</i>	Pine-woods aster	CE	E	Bay, Gulf, Calhoun
<i>Gentiana pennelliana</i>	Wiregrass gentian	CE	E	Bay, Gulf, Calhoun
<i>Harperocallis flava</i>	Harper's beauty	E	E	Bay, Gulf, Calhoun
<i>Hymenocallis henryae</i>	Henry's spiderlily	CE	E	Bay, Gulf
<i>Hypericum lissophloens</i>	Smooth-barked St. John's wort	CE	E	Bay
<i>Justicia crassifolia</i>	Thick-leaved water willow	CE	E	Bay, Gulf
<i>Kalmia latifolia</i>	Mountain laurel		T	Bay, Calhoun

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	COUNTY OCCURRENCE
<i>Lilium catesbaei</i>	Southern red lily		T	Bay, Gulf, Calhoun
<i>Linum sulcatum</i> var <i>harperi</i>	Harper's grooved yellow flax	CE	E	Gulf
<i>Linum westii</i>	West's flax	CE	E	Gulf, Calhoun
<i>Lupinus westianus</i>	Gulf coast lupine	CE	T	Bay, Gulf
<i>Lytbrum curtissii</i>	Curtiss' loosestrife	CE	E	Bay, Calhoun
<i>Macbridea alba</i>	White birds-in-a-nest	T	E	Bay, Gulf
<i>Macranthera flammea</i>	Hummingbird flower		E	Bay, Calhoun
<i>Magnolia ashei</i>	Ashe's magnolia		E	Bay
<i>Magnolia pyramidata</i>	Pyramid magnolia		E	Bay, Calhoun
<i>Oxyopolis filiformis greenmanii</i>	Giant water-dropwort		E	Bay, Gulf, Calhoun
<i>Paronychia chartacea</i> ssp. <i>minima</i>	Crystal lake nailwort	T	E	Bay
<i>Physocarpus opulifolius</i>	Eastern ninebark		E	Calhoun
<i>Pinckneya bracteata</i>	Hairy fever tree		T	Bay
<i>Pinguicula ionantha</i>	Godfrey's butterwort	T	E	Bay, Gulf, Calhoun
<i>Pinguicula lutea</i>	Yellow butterwort		T	Bay, Gulf
<i>Pinguicula planifolia</i>	Chapman's butterwort	CE	T	Bay, Gulf, Calhoun
<i>Pinguicula primulifolia</i>	Primrose-flower butterwort		E	Bay
<i>Pityopsis flexuosa</i>	Bent golden aster	CE	E	Bay, Gulf
<i>Platanthera ciliaris</i>	Yellow fringed orchid		T	Bay, Gulf, Calhoun
<i>Platanthera integra</i>	Yellow fringeless orchid	CE	E	Bay, Gulf, Calhoun
<i>Platanthera nivea</i>	Snowy orchid		T	Bay, Gulf, Calhoun
<i>Polygonella macrophylla</i>	Large-leaved jointweed	CE	T	Bay
<i>Rhexia parviflora</i>	Small-flowered meadowbeauty	CE	E	Bay, Gulf, Calhoun
<i>Rhododendron austrinum</i>	Orange azalea		E	Calhoun
<i>Rhododendron chapmanii</i>	Chapman's rhododendron	E	E	Gulf
<i>Rudbeckia nitida</i>	St. John's black-eyed susan	CE	E	Bay
<i>Sarracenia leucophylla</i>	White-top pitcher plant	CE	E	Bay, Gulf, Calhoun
<i>Sarracenia minor</i>	Hooded pitcher plant		T	Gulf
<i>Sarracenia psittacina</i>	Parrot pitcher plant		T	Bay, Gulf, Calhoun
<i>Sarracenia purpurea</i>	Decumbant pitcher plant		T	Bay, Gulf, Calhoun
<i>Scutellaria floridana</i>	Florida skullcap	T	E	Bay, Gulf
<i>Sideroxylon thornei</i>	Thorne's buckthorn		E	Gulf, Calhoun
<i>Spigelia gentianoides</i>	Gentian pinkroot	E	E	Calhoun
<i>Spiranthes laciniata</i>	Lace-lip		T	Bay
<i>Stachydeoma graveolens</i>	Mock pennyroyal		E	Bay
<i>Stewartia malacodendron</i>	Silky camellia		E	Bay, Calhoun
<i>Verbesina chapmanii</i>	Chapman's crownbeard	CE	T	Bay, Gulf, Calhoun
<i>Xyris drummondii</i>	Drummond's yellow-eyed grass	CE		Bay, Gulf
<i>Xyris isoetifolia</i>	Quillwort yellow-eyed grass	CE		Bay, Gulf
<i>Xyris longisepala</i>	Karst (Kral's) pond xyris		E	Bay
<i>Xyris scabrifolia</i>	Harper's yellow-eyed grass	CE	T	Bay, Gulf, Calhoun

Abbreviations used in the table: E=endangered, T=threatened, P=proposed, C=candidate, SA=similar appearance, SSC=species of special concern, CE=consideration encouraged, CH=Critical Habitat, BGEPA=Bald and Golden eagle protection Act, MBTA = Migratory Bird Treaty Act

3.6.9 Air Quality

Two air quality technical memoranda, one for Bay County and one for Gulf County, have been prepared to document the existing air quality conditions and the project's consistency with of the National Ambient Air Quality Standards (NAAQS). The analyses were conducted in accordance with the FDOT PD&E Manual, Part 2 Chapter 16 (9/13/06).

The Clean Air Act and its amendments led to the establishment of NAAQS, by the USEPA, for six air pollutants: carbon monoxide (CO), sulfur oxide, ozone (O₃), suspended particulate matter (PM₁₀), nitrogen dioxide, and lead. In 1997, USEPA added NAAQS for eight-hour O₃ and for very fine particulate matter (PM_{2.5}). The one-hour O₃ standard was revoked in 2005.

In accordance with the Clean Air Act, all areas within the United States are designated with respect to the NAAQS as being "attainment", "non-attainment", "maintenance", or "unclassifiable". Areas designated as attainment have air quality conditions better than the NAAQS standards. Accordingly, areas designated non-attainment have air quality conditions worse than the NAAQS standards. Maintenance areas are non-attainment areas that have been re-designated to attainment status. Areas that are unclassifiable have insufficient data to form a basis for attainment status.

The project is in an area that is currently designated as attainment for all the NAAQS. Therefore, the Transportation Conformity Regulations (40 Code of Federal Regulations {CFR} Part 93) do not apply.

3.6.10 Noise

A noise study report³⁷ has been prepared to document the analysis of potential traffic noise effects of the project alternatives which are discussed in Section 4 of this report. This analysis was conducted in accordance with FDOT's *PD&E Manual*, Part 2, Chapter 17³⁸ and Title 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 13, 2010) as required by the Noise Control Act of 1972³⁹.

A noise sensitive area is any property (owner occupied, rented, or leased) where frequent exterior human use occurs and a lowered noise level would benefit the use of the site. Noise sensitive areas are typically associated with land uses such as residential, recreational areas, motels/hotels, churches, schools, libraries, and hospitals.

The sensitive receptors for the Gulf Coast Parkway were concentrated in seven areas along the Build Alternatives: in Mexico Beach, the Overstreet community, Star Avenue at Tram Road, the Nehi/Cherokee Heights area, the Tyndall Parkway area, Lee Road area, and the US 231 vicinity of Camp Flowers Road. Noise sensitive locations are shown in the discussion of noise impacts in Section 4.3.3 of this report.

3.6.11 Contamination

A database search⁴⁰ has been conducted to determine potentially contaminated sites in the study area. The Contamination investigation of the project area resulted in the identification of twenty seven (27) potentially contaminated sites, as listed in **Table 3-31** and shown in **Figure 3-23**.

Table 3-31: Potentially Contaminated Sites in the Gulf Coast Parkway Study Area

Map ID	Site Name and Address	Facility ID No.	Contamination Concern	Underground Storage Tank (UST) Count	Above Ground Storage Tanks (AST) Count	Facility Type	Facility Status	Storage Tanks	Database	Risk
1	Express Lane #37 5500 N Star Avenue	9102358	Gas/Diesel	1	0	Retail Station	Open	Yes	Oculus	Med
2	Triangle Construction Road Building 5437 N Star Avenue	8626479	Gas	0	3	Fuel user/ Non-retail	Open	Yes	Oculus	Low
3	Majette Tower Sanitary (Bay Dunes Golf Course) 5304 Majette Tower Road	9400711, FLD980494835	Gas	0	2	Landfill	Open	Yes	Oculus	Low
4	Thompson Pump 5814 Merritt Brown Road	N/A	Unknown	0	0	Retail	Open	Yes	Oculus	Low
5	Tom Thumb #133 4729 Hwy 231 (Orphan Map #3)	9803950 003798647	Gas/Diesel	1	0	Retail Station	Open	Yes	Oculus	Low
6	Hancocks Cutoff 4808 CR 390 (Orphan Map #3)	9501676	Gas/Diesel	1	0	Retail Station	Open	Yes	Oculus	Low
7	Bay Cnty-Cnty Jail Annex 5600 Nehi Road	8733769	Diesel	0	1	County Government	Open	Yes	Oculus	Low
8	Dana Suttles Truck Leasing 1827 Transmitter Road	8500413	Diesel	0	1	Fuel user/ Non-retail	Open	Yes	Oculus	Low
9	Texaco-Sheffields 3435 E 15 th Street	8626471	Gas/Diesel	1	0	Retail Station	Closed	Yes	Oculus	Low
10	Citgo Food Store #4021	8520484	Gas	3	0	Retail Station	Open	Yes	Oculus	Low
11	Jerry Pybus Electric Inc. 1327 N Tyndall Pkwy	9803736	Gas	0	1	Fuel user/ Non-retail	Open	Yes	Oculus	Low

Map ID	Site Name and Address	Facility ID No.	Contamination Concern	Underground Storage Tank (UST) Count	Above Ground Storage Tanks (AST) Count	Facility Type	Facility Status	Storage Tanks	Database	Risk
12	Ace Hardware 3911 15 th Street	N/A	Chlorine	0	1	Retail	Open	Yes	N/A	Low
13	EZ Serve #4376 (Mexico Beach)	8500577	Gas	2	0	Retail Station	Closed	Yes	Oculus	Low
14	Express Lane #78 Mexico Beach Marina	8944332	Gas	4	0	Retail Station	Open	Yes	Oculus	Low
15	Break Away Hauling 191 Guilford Drive #05	9807127 / 100276406	Diesel	0	2	Fuel user/ Non-retail	Open	Yes	N/A	Low
16	Church of Christ 551 S. Long Street	107800526	National Pollutant Discharge Elimination System (NPDES) (Stormwater)	0	0	Construction Stormwater	Open	No	N/A	Low
17	Panama City Properties Old Allanton Road and Apaloosa Way	9700073	Unknown	1	1	Fuel user/ Non-retail	N/A	Yes	Oculus	Low
18	Northwest Florida Holdings 6100 Halter Marine Dr.	FLR000041921 100179760	Wastewater Gas Waste Oil Diesel	0	6	Fuel user/ Non-retail	Open	Yes	Oculus	Med
19	Northwest Florida Holdings 13300 Allanton Road	50071 (9202141)	Petroleum Products	0	4	Transportation Equipment Retail	Open	Yes	Oculus	Low
20	Allanton Facility 13300 Allanton Road	50071	Unknown	0	0	Transportation Equipment Retail	Open	No	Oculus	In Comp
21	Hunt's Country Store	8508570	Gas/Diesel	0	0	Retail	Closed		Oculus	Low
22	Patrick's Store Hwy 386	9101234	Gas/Diesel	0	0	Retail	Closed	Yes	Oculus	Low

Map ID	Site Name and Address	Facility ID No	Contamination Concern	Underground Storage Tank (UST) Count	Ground Storage Tanks (AST) Count	Facility Type	Facility Status	Storage Tanks	Database	Risk
23	Division of Forestry – Overstreet Hey 386 (Rt 1 Box 350)	8521311	Gas/Diesel	0	0	Fuel user/ Non-retail	Closed	Yes	Oculus	Low
24	Harmon's Heavy Equipment Hwy 386 N	9400720	Diesel	0	0	Fuel user/ Non-retail	Closed	No	Oculus	No
25	Baxter Wastewater Treatment Plant (WWTP) – El Governor Motel CR 386	FLA0100011	Improper WWTF Operation	0	0	Private WWTF	Inactive	No	N/A	No
26	Sumpin Else #2	850047	Gas	0	0	Retail	Open	Yes	Oculus	Low
27	Pitts Sand Company Inc.	9202662	Gas/Diesel	0	3	Fuel user/ Non-retail	Open	Yes	Oculus	Low

Figure 3-23: Potentially Contaminated Sites within the Gulf Coast Parkway Study Area



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